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THE INTERPRETATION OF PAIN AND THE DYSESTHESIAS

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In one of Horace's Epistles, he speaks of an *ægrimonia fastidiosa*, an expression which indicates an illness characterized by certain niceties of suffering, and not by the common and every-day variety of pain.

It is to this field of what may be called fastidious, though not unreal, distress that I invite some attention now; and my excuse is, that I believe it greatly deserves and will amply repay serious study and patient attention. For the time has come for the physician to study the subjective side of his patient more carefully, and the psychology of suffering in general, so that he can learn and interpret the patient's state of mind, as thoroughly as he does that of the body.

The research into human ailments by present methods has nearly reached its limit so far as clinical study goes. It must be continued in the laboratories, and from the methods of the laboratory we may yet expect our richest finds. A field most fertile for the neurologist now is that of studying the mental make-up of his patient, his habits of thought and feeling, the quality of his reactions and the mold in which education and environment have shaped his character. Then we begin to understand what he means by his complaints. The elements of psychology, when properly taught, do not form a difficult subject, or one which medical students cannot easily master. I can heartily second the advice recently given by President Schurman of Cornell, that this branch be taught to the medical student as an obligatory part of his course. So far, it is only the psychiatrists who have seriously taken up and applied psychology to medicine; but by doing so they have given to that branch the enormous impulse which it has received during the last decade. Neurology will fall behind if it does not make use of the same instrument.

THE DOCTRINE OF PARALLELISM

Let me now apply this preaching and come to the subject in hand. Psychology has shown that all mental activities are accompanied by neural activities, and that there is such a thorough-going parallelism between the two that when the mental state is disordered the accompanying neural activity must be also disordered. As Mr. Marshall puts it, "All neurotic activity is but an emphasis of a corresponding neururgic activity."[1]

We cannot imagine for example, a hallucination (which is an abnormal mental state) to be the production or the parallel of a perfectly normal neural state, or that there can be a perfectly normal neural activity of any kind running parallel with a morbid mental activity.

We cannot, as psychologists, imagine an agonizing pain disturbing our consciousness, without supposing that there is an abnormal neural state associated with it. Thus it must be that all pains and all suffering are real things. There is no such thing, strictly speaking, as an imaginary pain; that is, a pain which has no morbid neural condition underlying it. There is, furthermore, no such thing as a purely mental disease, for all disturbances of the mind are associated with some abnormal neural change. I assert, therefore, that whenever a person believes that he is suffering, he really is suffering. There are no functional psychoses and no functional neuroses. I emphasize this point, because it is so easy and so common a thing for physicians to dismiss a certain class of patients by saying: "There is nothing the matter with you; forget it and you will be well." The view of human suffering which I take is directly the opposite of that of the late esteemed Mrs. Eddy, but I must bear the obloquy. The surgical method of treating hysteria is to say: "You are a damned fool; go and behave yourself." Sometimes this form of therapeutic procedure answers, but it is not because the statement is strictly true that it succeeds. The fact that there is a system of therapeutics, based on the view that pain or morbidly unpleasant sensations do not exist, is not a proof of its veracity, even though the theory may often answer well. Pains do disappear when the attention is directed elsewhere, and the threshold of consciousness is raised so that the disagreeable sensations are excluded; but there was all the same an abnormal condition, cured by opposing to it a mental state; just as by changing the gait, certain strains are removed and ease of walking returns.

This paper is an attempt to study pains and dysesthesias and to show what they mean and how serious they are. I shall say little about the ordinary pains due to lesions of the peripheral and spinal sensory tracts; the facts here do not need much further interpretation.

SENSORY TRACT PAINS

We have a rather different kind of pain according to the seat of the irritation in the sensory nerve-tract.

1. For example, lesions of the cutaneous terminals of sensory nerves, such as occur in diabetic neuritis and certain forms of toxic and arteriosclerotic neuritis, cause symptoms more of the nature of paresthesias, burning sensations and soreness, than of actual pain.

2. Lesions of the muscular and visceral sensory terminals cause colicky, anginal and cramping pains.

3. On the other hand, lesions of the nerve-trunks themselves, as in alcoholic or rheumatic neuritis, cause a distinct aching and throbbing kind of pain, with occa-

1. Marshall, Henry Rutgers: Consciousness, Macmillan Co., 1910.

sional shooting pain running more or less along the nerves, with the complicating feelings of heaviness, weakness and some minor paresthesias.

4. Lesions of the posterior ganglia and sensory roots cause sharp, shooting pains more particularly, together with vasomotor disturbances.

5. Lesions of the sensory tracts of the cord and brain, (aside from the thalamus) rarely cause pain; more often only numbness and other paresthesias, such as cold and hot sensations.

6. Lesions of the thalamus cause burning, smarting pains.

7. Lesions of the sensory cortex of the brain cause no pain.

Of course the character of pain depends much on the nature, intensity and duration of the stimulus, but the general facts are about as I have stated.

Now, in clinical examinations, it is usually quite easy to interpret the description of the pains complained of and to determine that they are caused by some irritation of a nerve terminal as in diabetic neuritis, or of the trunk, as in brachial neuritis, or of a posterior ganglion and root, as in tabes and tumors of the cord.

PSYCHIC AND ATTENTION PAINS

But there is another group of sensory complaints. For ten or fifteen years, it has been my custom when a patient was particularly eloquent and emphatic in the description of various painful symptoms, to write down the characteristics on a slip of paper, add to it the name, age and diagnosis and file away the semeiologic note. I have collected these multitudinous scraps of sensorial description and have tried to associate them with some definite group of nervous or mental ailments. I have not been able entirely to clear up the mystery of bizarre complaints by this plan, but I have got thus far, namely, that now when certain groups of sensory symptoms are told me, I can often infer at once that the patient has one or another form of a psychoneurosis, or has some degree of arteriosclerosis, or of toxic or neuritic irritation.

There are two tendencies among those studying the psychoneuroses just now. One is to group what we may call the minor psychoses into three or four classes; and to put our patients into Class A, B, C, or D, and then treat each as we would the similar patients of this class.

Other psychoneurologists advocate the individual treatment of patients, and deny the importance of making any very definite diagnosis. Each individual and disease-condition, they say, should be treated by himself and itself. The past history is unfolded to the last detail, the present state is analyzed and the disordered associations are then treated and educated into right channels again.

The true method lies probably in the golden mean, but my habit and practice, I confess, go more with the first group. It seems to me that there are three or four broad general lines in which chronic forms of psychoneuroses shape themselves, and that nearly all cases can, with proper caution, be merged into one or other of these groups.

There is, for example, a certain condition which is known as neurasthenia, in which the cerebral and spinal centers are weak and irritable and easily exhausted and tired. In these cases, there is sometimes no important psychic defect.

There is another group which has received the name of psychasthenia, in which there is always present some psychic defect. The dominant and important symptoms are mental, and the patient has fears and doubts, tormenting ideas, depression and panics. Belonging to this group are those persons also who are subject to hysterical crises and to the impulsions and explosions characteristic of the inebriate.

There are, again, forms of mild depression which usually in early life are not accompanied with any nervous or physical symptoms, but in later life are very closely associated with physical symptoms. These depressions are for practical purposes called the manic depressive type and involution type of melancholia.

Finally, there is a condition of constitutional inferiority in which the individual has always an undue sensitiveness to irritation.

In looking over my Pandora's box of woe, I find that a rather distinct kind of pain and dysesthesia goes more or less with each of these groups.

THE PAINS OF THE OBSESSIVES

In interpreting the tales of suffering and pains which are unfolded to us, by persons who have no grave organic disease, one has to note carefully the attitude of mind of the patient towards his own suffering. In a certain class of patients, the pains are described with enthusiasm and intensity of feeling—with, indeed, a sort of joyful emphasis—the sufferers using a most rich vocabulary of superlatives as they point out their woes. The patient, with a smile, says that she is suffering untold and infinite agony from a pain which has not left her arm or head or back for six months. Another, with a certain expression of satisfaction, says that she has had a headache for fourteen years, always very severe. Another describes in a tumultuous flow of words a succession of curious and unpleasant sensations for which we have no definite names in our clinical symptomatology.

These patients, who with a healthy look and a somewhat earnest and satisfied way describe their sufferings, always belong in general to the class of obsessives or psychasthenics. Their pains are generally pretty definite. It is always a neuralgia of the arm or a pain over the kidney or the liver, or a steady pain in the back or on the side of the head.

The symptoms are those which involve especially the epicritic nerves; in other words, they are clear-cut, severe pains, or definitely outlined and located feelings of heat, cold, or tactile dysesthesias.

The localization of these pains is usually in some spot that does not correspond with the course of a nerve or with any nerve plexus. They are in the shoulder, or a joint, or the side of the head or back. Very often they lie in or over the abdominal viscera, and include neuralgias or paresthesias of the rectum, stomach, intestines or uterus. As a rule, these pains have no doubt been originally started by some definite sensory irritation, such as an injury or a disturbance of visceral function, or a strain put on the eyes or brain. In the obsessive patients, there is usually also an undercurrent of neurasthenia, and their pains, brought on at first by exhaustion and toxic conditions, are emphasized and glorified by the psychasthenic condition.[2]

2. Psychasthenic and Neurasthenic Pains.—The following are from notes of cases: a favorite sore spot on the side of the head; a tremulous jelly-like feeling in the back; a pain in the ovary, when excited; a painful globus; a localized paresthesia over the supraclavicular and infraclavicular region, lasting several years; a dysesthesia fixed definitely in the knees, elbows and epigastrium; fixed pains in side of head, in side of chest, in arm, fingers, ovaries; pressure, soreness and heat of occiput, tightness around jaw or neck; helmet sensation, sensation of the head being a vacuum; of the body being too short or too long; sensations of nervousness, tension, apprehension, uncertainty, restlessness, inside trembling, sinking feeling, as if about to faint, or die; sensations of unsteadiness, defective equilibrium; extreme painful sensory reaction to certain sights, to noises, disorder, developing pains, nausea, faintness, vertigo, etc.

The pains of the obsessives are such as can be argued with. They will admit that they should not have these pains, that perhaps they are imaginary, though they do not really believe it; they will often try conscientiously to forget them. And by suggestion, by earnest explanation, by various therapeutic incantations or by long and patient reeducation, often excellent results are produced.

A healthy woman about 40 years of age was met one day by her son, who had returned after a long absence and who grasped and squeezed her hand with an extra degree of filial earnestness, so that he practically crushed some few peripheral nerve filaments of the hand and caused her great pain. This lasted throughout the day; the next day, instead of subsiding, it increased. The hand was bandaged and kept at rest, but the pain still continued, and after some weeks was so severe that it was determined there was a neuritis. This neuritis, it was supposed, ascended, so that in the course of the next nine months, the several nerves of the arm were cut, three different operations being done on it, all without relief, and with the result of still greater suffering. At the end of the nine months I examined the hand and found nothing objectively wrong, except what had been done by the surgeons. On my telling her to let her hand alone and go about her work, the pain in the course of a few weeks subsided, and she recovered the use of her hand.

In this case, the pains from which the woman had suffered for nearly a year were not due to any irritation of importance in the sensory tracts. The pain was central and would ordinarily be called "imaginary" or hallucinatory.

The psychology of it is not so simple. It means that there was a disorder of attention and a lowering of the threshold of consciousness; all the time there was some real neural irritation which occupied and morbidly enlarged the field of attention. It is not necessary to invoke hysteria or necessarily the subconsciousness or the memory of the painful squeeze tucked away in the optic thalamus. The term "attention-pains" offers a sufficient psychology to begin with. With these pains is usually an egotistic and anxious feeling, and these factors furnish the indications for treatment.

A patient of mine, now a man of 60, has for fifteen years been going around on crutches because he has so much pain in the knees. These knee-pains are always present slightly, but are greatly increased by walking, or by any serious vibration; so that he cannot use a motor car or carriage, and he travels, whenever it is possible, by boat. This patient is an educated and intelligent man, without any observable psychosis or stigma of hysteria, so called. The most elaborate methods of physical and clinical exploration have failed to discover anything wrong with his knees. He intelligently appreciates the explanation that his trouble is purely an idea and tries to follow the suggestion based on this line, without avail. For he gave up business and devoted his attention to his knees. Naturally he has attention-pains.

A woman aged 40, of good general health, came to me complaining of pain over the region of the liver, which she had had for nearly three years continuously. It was a kind of pain which would be associated with some disturbance of the gall-bladder. She had been examined in every possible way by the best experts, who all reached the conclusion that it was, as they termed it, "nervous." She had nothing to gain by having the pain, and seemed earnestly to try to raise herself above it. She and a devoted husband worked together daily over the pain, but it continued obstinately despite every kind of cure, until the time when I saw her. It then gradually disappeared under a course of educational therapeutics which was given to her. Her pain began from an acute local disturbance. It kept up through her attentions to it.

These examples illustrate some of the types of attention-pains which often baffle us.

The use of the word "hysterical," much used in this connection, conveys a very vague explanation to serious minds, and arouses generally indignant protest from the patients, who know perfectly well that the pains are not hysterical, or as they interpret it, "imaginary." And in fact the worst and crudest method of interpreting them is to say with finality that they are imaginary or hysterical. I will admit, however, that just as fetich-worship suits the savage, so the theory of a hysteria or the philosophy of mental science may sometimes answer for the ignorant.

NEURASTHENIC PAINS

There is such a condition as neurasthenia or nervous exhaustion, but it quite rarely exists by itself. It has certain painful symptoms connected with it which are real and due, it is to be supposed, to tired nerves, which means often persisting autotoxemia. The pains of the neurasthenics and of the constitutionally inferior are mainly headaches, occipital and frontal, and are associated with sensations of pressure and constriction or fulness and discomfort about the head. Pains along the back, such as occur in spinal irritation, are largely due to the condition of the muscle mass which supports the spine. There are also direct and reflex symptoms that come from tired hearts and stomachs and lazy intestines. These pains are described in a rational way, as a rule, and are usually recognized by the fact that they are increased by exertion, and lessened by rest.

The pains of neurasthenia, however, are apt to become associated with the attention pains, and an obsessive state sometimes develops on a neurasthenia.

DEPRESSION PAINS

The attitude of the morbidly depressed patient, who has pains, and especially of those who have that form of depression associated with anxiety, a malady allied closely to the melancholia of involution, is quite different, and the description of pains and suffering is given in more serious style. The patient says with shut jaw and serious look that he has not ceased to have pains in his knees for fifteen years; he has not slept for weeks; he has sensations of prickling, boiling, bursting, coldness and heat along the spine and knees which annoy him to a point beyond endurance. He says this with a weary, anxious look; the tears come to his eyes. His pains are more than real; they are frightening and agonizing.

No amount of reasoning has much effect on these patients, except for an hour or for the moment, for these sufferings are deep-seated and a part of their conscious life. They show you their hands, which seem to them hot or badly nourished and ask you to feel of them; they want you to examine the disturbed area and feel or see that there is something wrong in the tingling forearms, the drawing sensations about the knees, or the pulling sensations about the neck.

These are the patients who have the most curious and bizarre kinds of sensory complexes. One will tell you that he feels as though his legs were bursting, or as though his body was stuffed with pricking burrs. He has sensations about the head, not merely of pressure and constriction, but of some substance under the skin

which is twisting or jumping or crawling. He has curious visceral pains, such as "boiling in the stomach" and feelings of heat deeply seated within the trunk, or within the limbs. He has sensations of coldness as though there was a piece of ice on the back, or of heat like a band over the chest, or of prickling irritation over the shoulders or in the knees.[3]

The general character of these sensations would make one think that in the dysesthesias of melancholia, the protopathic nerves are especially affected, while in psychasthenic pains, it seems to be more the epicritic nerves—sensations of a finer quality and more definite character.

When the patient comes to the physician's office, and begins to say that he has hot and annoying sensations in the knees and burning irritation along the back, disagreeable and rather indefinite disturbances of sensation about the hands and feet; when he begins to show you his limbs and point out the places where he suffers, one can infer at once that he is dealing with a person who has a hypochondriacal depression.[4]

By carefully recording the descriptions of symptoms given by patients, one can after a few interviews construct a sensory syndrome. If this is once done and attached to the history, it saves much trouble, time and repetition. Besides, when the patient knows you have all his troubles typewritten, he ceases to talk so much about them, and it does him good, for he knows that he has had a complete mental catharsis.

If one were to interpret these sensations psychologically according to the scheme which is presented below, I should say that in the psychasthenic pains there has ceased to be any peripheral irritation. The neuritis is gone; the nerve injury is healed, and the only neural disturbance is a morbid change in some primary sensory center, like the optic thalamus, where sensory impressions are first received and distributed. In other words, there is slight or no disorder of the sensory nerves, but there is some disassociation and disorganization in the work of the higher sensory mechanism. But beyond this there has occurred disorder of attention; the patient's mind has become so fixed on this slight neural change that the threshold of consciousness is greatly lowered; and even slight neural disturbance keeps up an agonizing suffering. I would still insist that there is a neural change, and that the pains are not imaginary, but the neural disturbance is always a minimum, while the focusing of attention on it is at a very morbid height. This may be shown in the diagram (Fig. 1 at A). It means, of course, that in these cases the therapeutic attempt should be directed toward turning away the field of thought to other channels and reestablishing the proper associations.

On the other hand, in the pains and dysesthesias that go with the anxious depressions, there is probably present a real morbid condition affecting perhaps especially the protopathic nerves. These usually do not arouse sensations in consciousness, but through conditions of autotoxemia, arteriosclerosis and the rheumatic and bad metabolic conditions, that usually accompany the period of involution, these nerves are irritated.

In addition to this the mind of the patient is depressed by his psychosis and made more sensitive and attentive to the inflow of sensory impulses. There is then both an increase in the stimulus and a lowering of the threshold of consciousness. These pains of the anxious depressives have a certain physical basis in the badly nourished and irritable nerves, and the alertness of self-attention which exists in anxious minds.

So we find that, in these cases, there is not much to be accomplished by attempting to divert the attention of the patients by therapeutic talks. They are relieved most by measures which improve the bodily condition—by rest, diet, fresh air and eliminatives.[5]

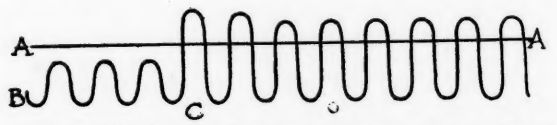

Fig. 1.—Diagram illustrating the conditions when a painful stimulus continues causing constant real pain. A, threshold of consciousness; B, waves of sensory stimuli; C, waves of abnormal and painful stimuli rising into consciousness.

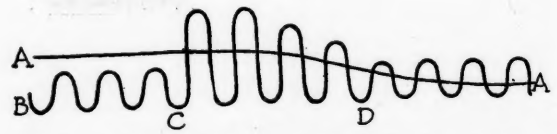

Fig. 2.—Diagram illustrating habit or attention pains. A, threshold of consciousness; B, waves of normal sensory stimuli; C, waves of abnormal sensory stimuli from trauma, inflammation, etc. At D the sensory stimuli have dropped to normal, but the threshold of consciousness has been lowered so that ordinary stimuli are felt as painful.

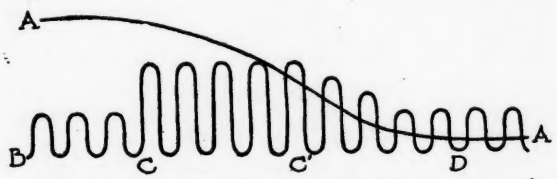

Fig. 3.—Diagram illustrating post-traumatic pains. A, B, and C, as in other diagrams. At C^1 the painful stimuli begin to cease, but the attention keeps the threshold of consciousness abnormally low and pain continues to be felt.

THE PSYCHOLOGY OF FUNCTIONAL PAINS

The accompanying diagrams and parts of the description have been prepared for me through the courtesy of Mr. Marshall.

The word "consciousness" is used in two ways: First, as an equivalent of *psychic existence as such,* as when we question whether the plants have consciousness, or say that stones have no consciousness; second, as the equivalent of *awareness,* which is a narrow phase of

3. Depression Pains.—The following are actual descriptions given by different patients: feeling as if a piece of ice was between the shoulders with paresthesia and stiffness of neck; cold sensation in small of back as if it had shrunk up; burning pain on top of head; burning pain in the back; sensations of coldness of certain parts of the body; sense of heat and fever over chest and neck and head; sensations of burning, smarting like bee-stings over head, arms and back; sensations of body being filled and stuffed with pricking burrs; a feeling as if fine needles were sticking out of the scalp, or as if something were working and wriggling under the scalp; a feeling as if a ton-weight were pressing on the top of the head; hot hands and feet; dysesthesias of legs, arms and epigastrium; pricking over sides of chest and top of head, which becomes actual pain when worried.

4. The custom of internists is to ascribe them to arteriosclerosis, a custom not founded on sound data.

5. There has been a great deal said and written about the pains and dysesthesias of arteriosclerosis and of the gouty and arthritic states. Many symptoms, such as cold sensations, heat sensations, numbness and paresthesias of the hands and feet, are due in part at least to those causes. The burning feet and hand in diabetes and peripheral neuritis must be recognized, the dysesthesias (very rare) in central lesions, must be considered. But in these there is lacking the peculiar mental state. As for arterial sclerosis, one sees it repeatedly in the most intense degrees without the patient complaining of those sensory syndromes which go with neurasthenic, obsessive and depression states; hence, I do not accept the explanation commonly given of arteriosclerosis as a cause of the many pains and dysesthesias complained of by people who really have such vascular condition; the psychic factor is the important and real one.

psychic existence as such. Thus, when one forgets, one is likely to say that he is not conscious that he did so and so.

The term "threshold of consciousness" is in common use. It indicates that there is a something below this so-called threshold. What we really mean is that we have a threshold of awareness within our psychic existence. All that is within the consciousness of any moment and that is below the threshold of awareness is part of what Marshall calls subattentive consciousness, and is what is generally called the subconscious. There are many different thresholds of awareness, and these thresholds shift sometimes suddenly. Such a shifting takes place when we wake up. If we represent the threshold of consciousness in any moment by an approximately straight line, then we may represent special mental items by waves as in Figure 1; the rise of each wave above the level of the threshold indicating the degree of its emphasis.

We suppose now, in Figure 2, the normal waves of stimuli are abnormally increased at C by some injury or inflammation. The waves of stimuli pass up above the threshold of consciousness and pain is felt. After a time the injury is healed and only normal sensory stimuli are propagated, but, the attention of the patient being directed to these stimuli, the threshold of consciousness is lowered and the pain is still felt. We have now the psychic, or attention or habit pains.

Figure 3 illustrates a somewhat similar condition. In the heat of battle or excitement of accident, the threshold of consciousness is greatly raised, *quoad* the sensory stimuli from an injured part. No pain is felt until later, when quieter and more normal conditions are brought about. Then at C^1 the real pains begin to be felt. They excite the attention of the patient and the threshold of consciousness is lowered at D and pains continue to be felt even when the injured part is healed. These are the pains of the traumatic psychoses.

SUMMARY

A more careful study should be made of the psychology of patients who complain of chronic pains and dysesthesias not due to objective causes. The study of elementary psychology in the medical schools should be obligatory. Clinical neurology will not make much further progress without psychology.

I have collected and analyzed the symptoms of pains and dysesthesias not directly due to organic disease, and have here tried to group them according to the neurosis or psychosis.

1. I find a certain kind of pains characteristic of simple neurasthenia.

2. Also pains, etc., of psychasthenia and the obsessives are peculiar to that psychosis. These perhaps involve especially the epicritic nerves. The mental attitude and reactions of the patient have to be considered. The pains of the traumatic psychoses mostly belong in this class.

3. The pains of the anxious and involutional depressions are especially numerous, bizarre and characteristic. They form for each patient a sensory-complex, and they seem especially to involve the protopathic nerves.

I interpret the symptoms of pains, etc., in terms of the psychology of Marshall. These are not imaginary pains, because there is a thoroughgoing parallelism between mind and body and there can be no morbid mental change without a corresponding neural change. Psychic pains are called "attention-pains," and the overemphasis in activity of minor psychic symptoms is invoked to explain their existence. There is not yet any simple test by which we can tell surely when a pain is not a real, but an attention or habit pain. A thorough study of the psyche and soma of each patient and a knowledge of the characteristic pains in the various groups will clear up most cases.

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MIGRATION BY AMEBOID MOVEMENT OF SARCOMA CELLS GROWING IN VITRO

AND ITS BEARING ON THE PROBLEM OF THE SPREAD OF MALIGNANT GROWTHS IN THE BODY*

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It is the object of this note to describe certain ameboid phenomena observed in the cells of rat and mouse sarcomas when cultivated *in vitro*, and to suggest that these phenomena probably play an important part in the infiltrative and metastatic growth of tumors.

Fig. 1.—The edges of the sarcomatous tissue are beset with long, projecting sarcoma cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines.

We have employed in this study Burrows'[1] modification of Harrison's[2] technic, as applied by us[3] to rats and mice.

Since rat and mouse sarcomas do not differ essentially from one another in their behavior when cultivated *in vitro*, we shall confine our description, for the sake of clearness, to the various changes observed in the cells of a mouse sarcoma growing in mouse plasma. The edges

* From the Department of Pathology, College of Physicians and Surgeons, Columbia University, New York City (the George Crocker Special Research Fund).

1. Burrows, M. T.: The Cultivation of the Tissues of the Chick-Embryo Outside the Body, THE JOURNAL A. M. A., Dec. 10, 1910, p. 2057.

2. Harrison, R. G.: The Outgrowth of the Nerve Fiber as a Mode of Protoplasmic Movement, Jour. Exper. Zool., 1910, ix, 787.

3. Lambert and Hanes: Growth in Vitro of the Transplantable Sarcomas of Rats and Mice, THE JOURNAL A. M. A., Jan. 7, 1911, p. 33.

of a freshly implanted piece of tissue, examined under the microscope, are sharply defined and free from projecting cells. The tissue itself looks compact and homogeneous. Twelve hours later the edges of the tissue are beset with long, projecting cells, and the adjacent plasma contains many isolated cells with remarkably irregular outlines (Fig. 1). The original piece of tissue is no longer uniformly dense and compact, but has become thinner and more translucent. The number of cells in the surrounding plasma increases now, from hour to hour, largely at the expense of the original tissue, which gradually grows thinner, until at from thirty-six to forty-eight hours, its volume has decreased to one-half or one-third its initial size. Indeed, the original mass of tissue may become resolved completely into its component cells, which pass into the plasma. Mitoses are seen, both in the original piece of tissue, and in the cells which have migrated from it.

The exact mechanism of this migration of sarcoma cells is observable with ease under the higher powers of the microscope. They pass from the tissue to the plasma

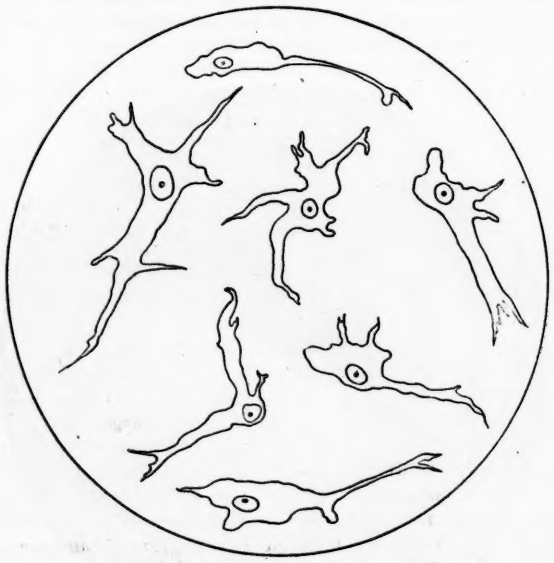


Fig. 2.—The sarcoma cells migrate from the tissue to the plasma by ameboid movement. Pseudopods are thrown out on all sides in characteristic fashion.

by ameboid movement. Pseudopods are thrown out on all sides, and these increase or decrease in size in characteristic ameboid fashion (Fig. 2). The ameba itself scarcely furnishes more exquisite figures than do sarcoma cells. There is one difference however; the movements of amebas are much more rapid and active. This may be due to the rather firm consistency of the coagulated plasma in which the sarcoma cells are living. Fat granules appear very early, and it is quite interesting to watch them stream into a newly formed pseudopod. One is reminded forcefully of the movements of erythrocytes and other inclusions in the cytoplasm of the *Entamœba histolytica*. If a specimen showing active ameboid movements of the cells is removed from the warm chamber, and examined under a microscope at room temperature, the majority of the cells retract their pseudopods and become spherical.

The phenomenon of ameboid migration of sarcoma cells growing *in vitro*, seems to us readily applicable to the explanation of the spread of malignant growths in the tissues of the body. Carl Lewin[4] has urged, on theoretical grounds, the necessity of such a conception. A critical discussion of the subject of tumor metastasis cannot be attempted at this time, but we should like to point out that the conception of ameboid migration of tumor cells explains most reasonably the invasion of tissues, lymph-spaces, and lymph-vessels and blood-vessels by malignant growths. It is especially helpful as an explanation of the dissemination and localization of cancer in serous cavities.

437 West Fifty-Ninth Street.

DUODENOJEJUNOSTOMY

FOR THE CURE OF POSTOPERATIVE REGURGITANT VOMITING OF BILE AND PANCREATIC JUICES, FOLLOWING GASTRO-ENTEROSTOMY

P. S. P. ST. L. MONCURE
NORFOLK, VA.

Necessity is the mother of invention, and it was necessity that forced me to "dig up," so to speak, the ascending or terminal portion of the duodenum and "buttonhole" it to the distal portion of the jejunum in the case of a patient operated on six weeks previously for ulcer of the stomach, in which a posterior, no-loop gastro-enterostomy had been performed. The operation, though it relieved the original symptoms entirely, yet by some spur or kink occurring at the anastomosis, caused, about every second day—sometimes oftener—a profuse vomiting of biliary and pancreatic fluids. This vomited material rarely contained any food; and, although great quantities of fluid would be vomited at one time (at least a quart sometimes), it did not accumulate in the stomach, as lavage just before vomiting commenced would often fail to bring any of it away—the water returning clear—when, in less than an hour, bright yellow bile with no food particles would be vomited.

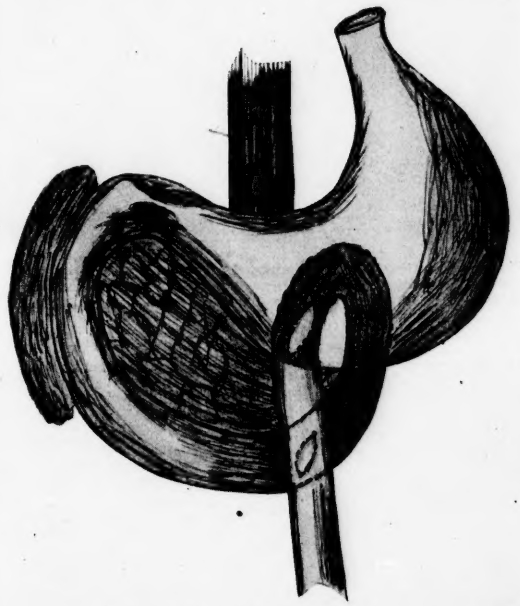
The operation which I performed for the relief of this regurgitant vomiting is not necessarily tedious or long. I believe that it will be performed more frequently in the future, primarily perhaps through election, to prevent the possibility of regurgitant bile-vomiting, and secondarily—as was my case—through necessity. The operation consisted of anastomosing the ascending or terminal portion of the duodenum—just as it turns upward—to the jejunum, for the drainage of bile and pancreatic fluid. The operation is best described by citing the case:

History.—Mrs. S., aged 28, white, married several years, having no children, formerly a seamstress, came to me July 5, 1909, with the following symptoms: pain in epigastric region; periodic vomiting some hours after eating; emaciation; history of vomiting for fourteen years; blood said to have been vomited years ago; none in recent years. The patient was having a temperature every day from 99 to 100.5 F., she had irregular chills, and vomited a great deal. She improved somewhat on stomach lavage, diet, and drugs, but after three weeks' trial, consented to an operation. Lavage was kept up until the operation was performed, July 30. I did the no-loop operation of posterior gastro-enterostomy, as described by Moynihan, the ulcer being at the pyloric end of the stomach. The patient recovered very rapidly and left the hospital in less than two weeks, vomiting in this time only once or twice. She very soon, however (in a week or two), began to vomit great quantities of clear bile. The patient would vomit a

4. Lewin, Carl: Die bösartigen Geschwülste, 1909, Leipsic.

great deal, and then have a period of rest for a day or two, especially if given a purgative. She never vomited food; had a most excellent appetite, and would become ravenously hungry just after vomiting the bile. I began to irrigate the stomach again every morning before breakfast, but seeing no benefit after ten days' trial, I finally suggested another operation which the patient, after a few days more of vomiting, urged me to perform at once. This was done October 9, sixty-nine days after the first operation.

Operation.—I went in to relieve the vicious circle, and intending undoing my work on the stomach, if I could not see any other way to do it. Adhesions were so dense around the site of my first operation that it would have been very difficult to undo the work. The engorgement of the bile and other fluids in the duodenum, however, made it stand out very prominently, so I at once decided to work up this ascending portion of it, and make a lateral anastomosis with the descending or distal portion of the jejunum, about 2 or 3 inches below my first operation. I used a Roosevelt clamp and had no great difficulty in doing the anastomosis. Barring a rather protracted period of nausea and retching following the operation,



Duodenojejunostomy after a gastro-enterostomy, the ascending portion of the duodenum being joined by a lateral anastomosis with the jejunum 2 to 3 inches distant from the gastrojejunostomy.

or rather, the anesthetic, which she took poorly, the patient made a rapid recovery. She has never vomited any bile since, and fourteen months after the operation was in most excellent health, having fattened about 35 pounds.

The points to commend the operation are these: The possibility of draining the duodenum directly into the jejunum—a safety-valve, so to speak, in the operation of the gastro-enterostomy—which can be done either at the time of the gastro-enterostomy operation, or later if it becomes a necessity. Either a suture, side-to-side anastomosis may be performed—as was done by me—or a Murphy button may be used. I prefer the former, however. I have performed posterior gastro-enterostomy since, but did the operation as described by W. J. Mayo, and, having no subsequent vomiting I have had no opportunity of performing again the operation described above. I have since twice operated on the cadaver, however, and had no difficulty in pulling a loop of duodenum through the peritoneum covering it, and anastomosing it to the jejunum.

Vomiting of bile from any cause can be safely and comparatively easily corrected without having to undo the work on the stomach—when it has been performed—which work may, indeed, be serving a good purpose. The operation is more difficult than a simple gastro-enterostomy, yet it is not a desperate operation and should not take any longer than gastro-enterostomy. It is an operation that will not be performed very often, as the necessity for it is rare, and indeed will become more so; but it can be done; and with marked benefit to the patient. I know of one or two patients now walking around the country on whom gastro-enterostomy has been performed, and who suffer so much from vomiting or other causes, that it would be well for them if they had a little safety-valve to let that bile directly through from the duodenum into the jejunum.

I hope it will be my pleasure some day to hear that some one else has tried the operation with the same happy result.

57 Granby Street.

THE DIAGNOSIS OF MAMMARY TUMORS

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PHILADELPHIA

Twenty years ago I felt sure that a differential diagnosis between benign and malignant tumors of the mammary gland could be made with reasonable certainty. An increasing experience has taught me year by year the fallacy of this opinion, which, I may say, was at the time quite orthodox. Then benign growths were considered to comprise less than 10 per cent. of all mammary neoplasms. We now know that this estimate of Gross and others was far too small, just as we also appreciate that their estimate of sarcomas was much too large. To-day we increase the number of benign growths measurably and restrict the number of sarcomas greatly. Gross estimated that non-carcinomatous growths comprised 18.27 per cent. of mammary neoplasms, and that they were about equally divided between benign growths and sarcomas—9.52 per cent. of the former and 8.75 per cent. of the latter.[1]

I have carefully analyzed the statistics of 5,000 cases of mammary tumors, taking them largely from German clinics where accuracy was likely to obtain, and as a result have found that 16.5 per cent. were benign and that 2.7 per cent. were sarcomas. Thus we find 19.2 per cent.—slightly more than Gross found—non-carcinomatous, but, unlike him, find that sarcomas comprise only a very small part of such lesions and may, indeed, be considered as rare in this situation.[2]

Bloodgood,[3] in an analysis of 694 mammary neoplasms in the Johns Hopkins Hospital, encountered 14 sarcomas, or exactly 1.5 per cent, a still smaller proportion than we found.

It is of the greatest importance to settle this question before taking up the differential diagnosis, as it is my belief that the comparative rarity of sarcoma in the breast is not generally appreciated. Its infrequency in

1. Gross, S. W.: Tumors of Mammary Gland, 1880, Appleton & Co.
2. Rodman: Diseases of the Mammary Gland, 1908, P. Blakiston's Son & Co.
3. Kelly and Noble: Gynecology and Abdominal Surgery, 1908, ii.

this organ is in marked contrast to its frequent occurrence in many others. At the same time it is now appreciated more than ever before that many of the benign tumors tend markedly, in time, to undergo malignant transformation; and so much so is this the case with some of them, notably the papillary cystadenomas, that they should be looked on from the very beginning as potentially malignant.

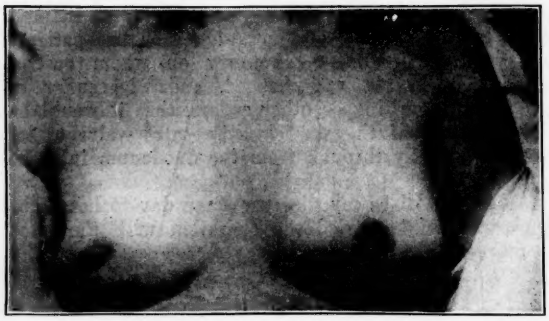

Fig. 5.—Photograph of patient shown in Fig. 2. Left nipple shows marked retraction, in association with abnormal involution.

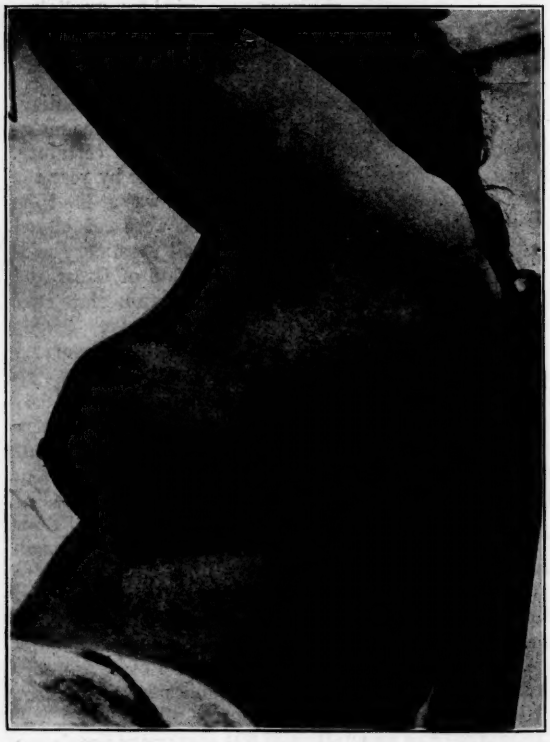

Fig. 7.—Side view of growth shown in Fig. 6.

ABNORMAL INVOLUTION

Another condition of the greatest importance and frequency has been given much attention during recent years, and its careful study has shown that it manifests a decided tendency to result in carcinoma. I refer to abnormal involution, or, what is perhaps a better term, fibrous and glandular hyperplasia with retention cysts (Whitney), or senile parenchymatous hypertrophy (Bloodgood). It has also been called Schimmelbusch's disease, the disease of Reclus, general cystic disease of the breast, etc. Warren, in a careful analysis of his series, found resulting or coincident carcinoma in 13 per cent. of his cases; Greenough and Hartwell in 10 per cent. of theirs; other authors have made a much higher estimate, some as high as 50 per cent. This condition is most likely to be encountered between 40 and 50 years of age, though it often occurs much earlier and not infrequently later. Thrice within a year I have encountered it resulting in malignancy in women aged 36, 38 and 41 years. All the patients were unmarried. It is far more likely to occur in maiden women, married women who are sterile or in mothers who have not suckled their children. All parts of the breast may be involved, but in my experience, if the condition is limited, as it sometimes is, to a single quadrant, it is most likely to be the lower and outer one. Occurring usually at the cancer age, having clinically many of the signs of malignant dis

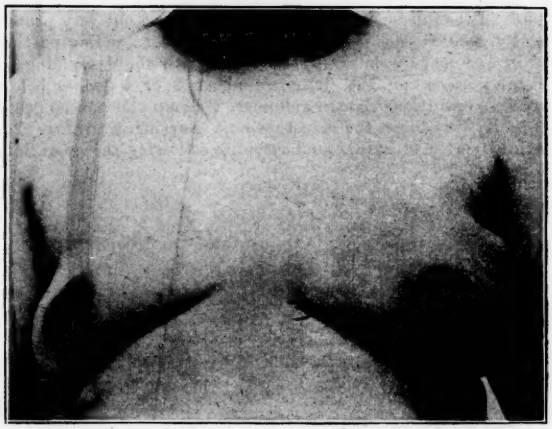

Fig. 6.—Growth clinically diagnosed as a sarcoma in a woman 47 years old. Pathologically diagnosed as either a myxoma which has undergone sarcomatous change, or benign growth.

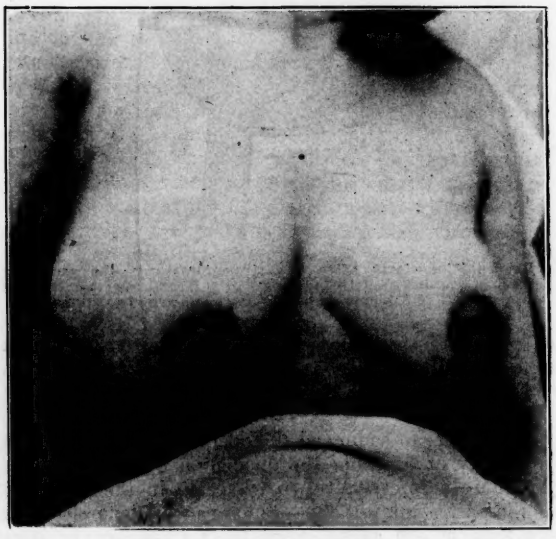

Fig. 8.—Periductal fibroma (fibroadenoma), the largest the author has encountered. In size and shape it resembled a goose egg. Photograph showing tumor after removal shown on page 112 of the author's work on Diseases of the Breast.

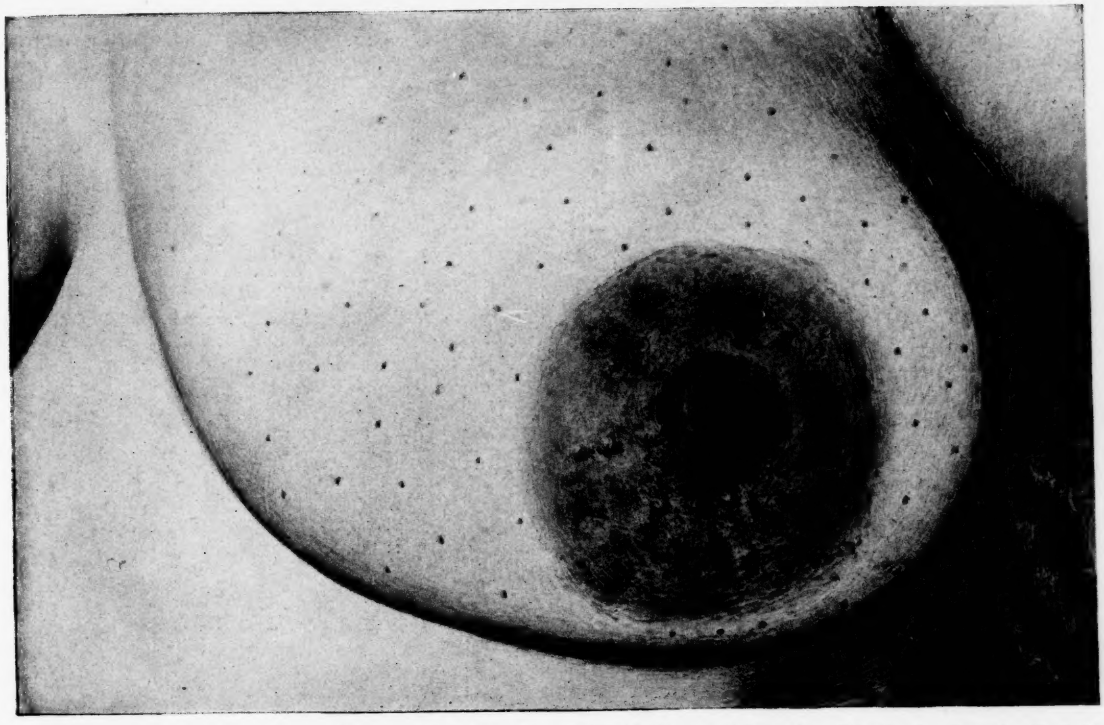

Fig. 1.—Acute cancer in a patient 45 years of age. The color of the skin is accurately portrayed in the drawing, also the indentations resembling the skin of an orange.

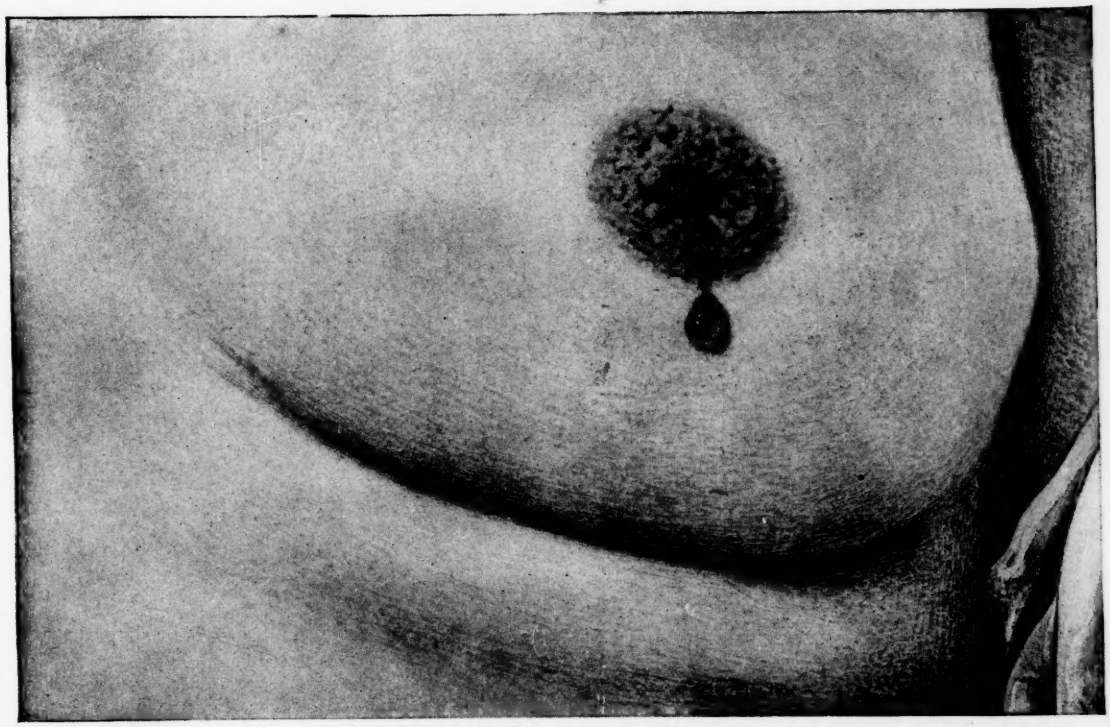

Fig. 2.—Typical retraction of the nipple, also a watery discharge therefrom, in a patient 58 years of age with abnormal involution. The discharge at times is sanguinolent.

XUM

Fig. 3.—Cross-section of breast after removal. No evidence of malignancy. Typical abnormal involution.

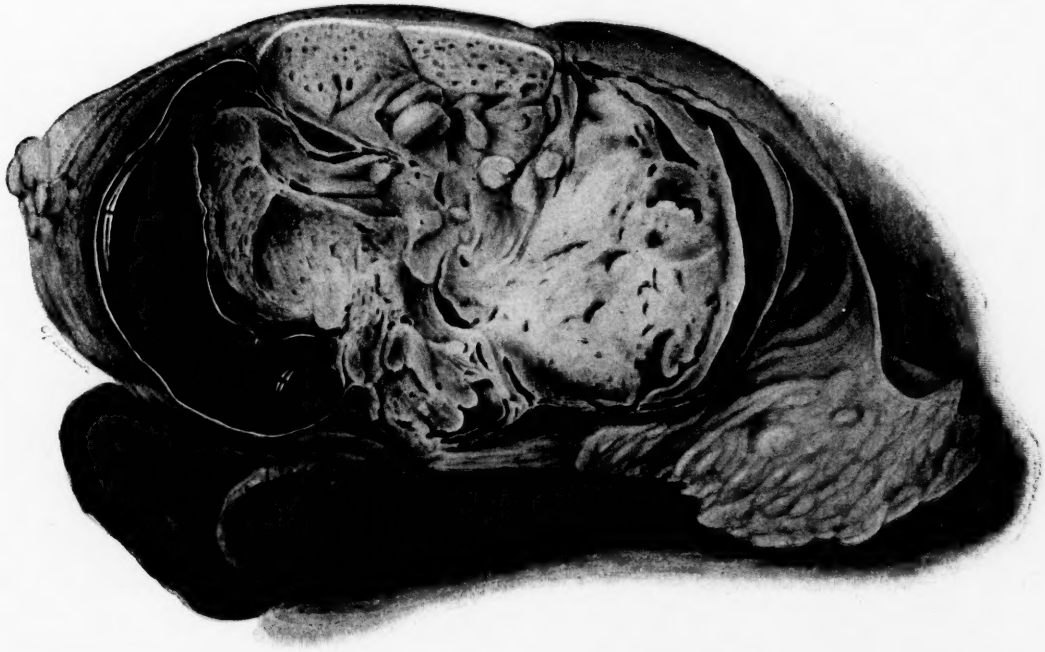

Fig. 4.—Cross-section of sarcoma of the breast which in places has undergone marked cystic degeneration. The case is interesting from the fact that it has been considered by some excellent microscopists as showing carcinomatous spots also.

ease, its recognition becomes a matter of the first importance. More than any other condition will it, in my judgment, occasion embarrassment to the diagnostician and perplexity to the surgeon even at the time of operation. Usually its nature will be revealed after incision and macroscopic examination, particularly if it has advanced to what Bloodgood has described as the adenocystic stage, or where there are numerous small, almost microscopic cysts. But in the first or hyperplastic stage nothing short of the microscope will positively reveal its nature. I shall subsequently refer to it more at length.

I would again emphasize the danger of coincident or resulting carcinoma, and that it is too great to be assumed until every safeguard has been taken. In the cases at the Hopkins Hospital associated with carcinoma, fourteen in number, all were, according to Bloodgood,[3] of the adenocystic type. This is most suggestive and should influence materially the treatment.

The several forms of mastitis, pyogenic and non-pyogenic, will not infrequently embarrass even the most careful and expert diagnostician. So great a surgeon as von Langenbeck amputated the entire breasts in at least two patients without suspecting that he was dealing with a simple inflammatory lesion (Keen[4]). All have encountered instances of mastitis in nursing mothers which for a time at least were puzzling, particularly when occurring during the first three or four months of lactation.

ACUTE CARCINOMA

I would here call attention to acute carcinoma of the mammary gland, which so closely simulates inflammation that Volkmann has described it under the name of carcinomatous mastitis. It usually begins as a diffuse rather than a discrete process, in this respect differing from the ordinary forms of carcinoma. Not infrequently has it been associated with pregnancy. Whether such be the case or not, it runs a remarkably rapid course, oftentimes destroying life within six months. The entire gland is enlarged, hard, tender, and the skin covering may be red and edematous. The symptoms of cachexia manifest themselves early and general metastases occur quickly.

I have encountered four well-marked instances of this affection during the past eighteen months. Three of them began as diffuse processes and had been treated with local applications with the belief that they were abscesses. One of them was actually incised. One of these occurred in a woman 45 years of age who had not been pregnant for twenty years. She was treated for several weeks in the out-patient department of the Pennsylvania Hospital, where, I assume from her statement to me and the nature of the local treatment employed, that a diagnosis of mastitis had been made. When I saw her later a diagnosis of acute carcinoma was evident. The breast was at least one-half larger than its fellow, the skin covering red, edematous and tender. The glands of the axilla were extensively involved and there were numerous shot-like bodies in the skin between the nipple and axilla. A complete operation was at once performed, but more with the hope of giving temporary relief to the intense pain from which the patient was suffering than with any expectation of a permanent cure. She lived more than six months after operation, dying from metastases to the lungs, liver and opposite breast.

The second case I saw at the clinic of Dr. W. L. Estes, at South Bethlehem, in a stout woman about 45 years of age. The appearance of the breast was almost identical with that in the case just described. It was explored under the belief that it was inflammatory, but the exploration was at once followed by a complete operation. I have no records of this case, as it occurred in the practice of another surgeon.

The third case I saw November, 1909, in a woman aged 35. She noticed, four months previously, when she was one month pregnant, a small lump in the upper and outer quadrant of her left breast. At the time when she first consulted me she was five months pregnant and the disease had advanced so rapidly that the entire breast was enlarged, tender and involved throughout. If her statement that it began and for three months remained as a small lump in the upper and outer quadrant of the breast can be relied on (and I am not disposed to question it, inasmuch as the breast was harder and more involved at this point) it indicates that the disease sometimes begins as a discrete process. S. W. Gross reported a similar case.[1] There were several shot-like bodies in the skin over the outer hemisphere of the affected breast.

I explained to her husband, a dentist with medical training, that the outlook was a gloomy one, and that the operation promised little further than temporary relief from her pain, which was marked, and improvement in her mental condition. She was greatly distressed in mind, worrying constantly about her condition. Her husband insisted on an operation, which was performed in the Presbyterian Hospital. She experienced entire relief, mental and physical, for nearly two months.

Later I was called in consultation by Dr. W. R. Nicholson, who had been engaged for her accouchement. She was then suffering great abdominal pain due to the conjoint pressure occasioned by a very much enlarged liver and a uterus seven months pregnant. He believed, and I concurred in his opinion, that a premature delivery would soon be necessary. This was brought on a fortnight later, the patient dying about two months subsequently.

On May 17, 1910, I operated in another and most typical case of acute cancer, which had been seen and referred to me by Drs. Darnell and Stewart of Atlantic City. The patient was 45 years of age, married, with one child 24 years old. She had not been pregnant since, but had had an abscess of this breast after her child was born. Attention was not attracted to the breast until three weeks prior to operation, when it was seen to be enlarged somewhat and the site of dull pain and throbbing at night. At the time of operation the integument was distinctly reddened and presented the most characteristic orange-skin appearance that I have ever seen. It is quite well portrayed in the colored drawing herewith shown (Fig. 1).

Of the four cases of acute cancer that I have encountered in the past eighteen months only one was associated with pregnancy. In all of the others the patients were about 45 years of age and none of them had been pregnant for many years.

I have partial records of other cases of acute cancer seen and reported by Prof. Edward P. Davis and others. I am sure that the condition is more common than has been hitherto thought, and that it is perhaps as frequent in non-pregnant as it is in pregnant women.

DIFFERENTIATION OF CYSTS

Difficult as it is to diagnosticate the several conditions already mentioned, it is more difficult to differentiate between benign and malignant cysts, with or without a

4. Keen: Amputation of the Female Breast, Cleveland Med. Gaz. December, 1894.

discharge from the nipple. The character of the discharge, when present, is by no means the aid to diagnosis that I formerly thought and that some others still think it to be. A scanty, thin, sanguinolent discharge is certainly suggestive of carcinoma, whereas a mucoid one is evidence of a benign growth. Thick, granular contents always suggest malignancy. A discharge of blood or markedly bloody fluid strongly suggests an intracystic papilloma. The latter condition, though originally benign, shows a marked tendency to undergo malignant change. Unless a discharge of blood can be clearly shown to have resulted from an intracystic papilloma the malignancy of the cyst should be assumed and the entire breast removed. A more or less blood-stained fluid, however, is now and then found discharging from the nipple in association with abnormal involution.

I have encountered several cases of this nature, one that of a colored woman, aged 39, kindly sent in to my service at the Presbyterian Hospital by Dr. Edward B. Hodge on December 1, 1909. She was married, had borne five children, the youngest being 11 years of age. There had for two years been a watery discharge from the left nipple, which in time became yellow and afterward noticeably bloody. The breast was explored by the plastic resection method of Warren. A rather large cyst was found behind the nipple. In addition there were numerous shot-like cysts throughout the gland, which caused me, in spite of the frozen section report, which indicated the part examined to have been benign, to sacrifice the entire breast. It was a typical case of abnormal involution. Had there been only the single cyst behind the nipple I should not have resorted to such drastic treatment, but the associated minute cysts scattered throughout the breast caused me to feel that the patient's safety demanded removal of the entire breast.

I recently encountered in a widow, aged 58, a typical case of abnormal involution with a discharge from and *marked retraction of the nipple*. The discharge, which began seven or eight years ago, was first watery, later on becoming yellowish, and for the last year has been at times bloody. The retraction of the nipple has, so she states, been evident for two years, but during the last six months has been marked. Notwithstanding the discharge and retraction of the nipple, a clinical diagnosis of abnormal involution with cysts was made and complete removal of the breast advised. It was practiced on April 21. The condition before operation is well shown by Figure 2. The macroscopic appearance of the removed breast is also shown in the colored drawing (Fig. 3).

The microscopic report confirms the clinical diagnosis, showing no malignant change whatsoever. The case is interesting on account of the discharge from and marked retraction of the nipple in association with abnormal involution.

It is of the utmost importance to recognize cancerous cysts before or at the time of operation, for if such is not the case the prognosis is extremely bad. Both Halsted[5] and Bloodgood[3] positively state that not a single permanent cure has resulted from operations performed in the Johns Hopkins Hospital when the cancerous nature of the cyst was overlooked at the time of the first operation. Even though soon afterward a second and complete operation was done, the ultimate result was invariably bad.

I made such a mistake in September, 1906, when operating on a patient with a very large cyst situated in the lower and outer quadrant of each breast. Each cyst was as large as a tangerine orange and contained several ounces of a thin, brownish fluid. My pathologist was not present prepared to make frozen sections, having misunderstood the time of our engagement. The character of the fluid aroused my suspicions and almost all of each breast was removed. The muscles, however, were not disturbed, nor were the axillæ cleared. I confess that I was somewhat surprised to receive Prof. Joseph MacFarland's report, ten days after operation, stating positively that each growth was a medullary carcinoma. Feeling it my duty to suggest a second and more thorough operation, I candidly explained the facts to the patient, admitted my mistake and requested the privilege of doing a second operation. This was declined. I am happy to state that the patient when examined for me by her physician, Dr. John B. Cassidy, of Burlington, N. J., was reported as perfectly well generally and free from recurrence locally. It is nearly four years since the operation.

5. Halsted: Tr. Am. Surg. Assn., 1907.

RETRACTION OF NIPPLE

Retraction of the nipple is most significant, but not, as often stated by some high in authority, *pathognomonic* of carcinoma. In the first place it will be encountered in only 52 per cent. of undoubted cancers—those which are situated behind or sufficiently near the nipple to compress and pull on its trabeculæ; in the second place, retraction sometimes is present, in more or less degree, in perfectly benign conditions—as, for instance, congenitally depressed nipples; in patients who have had mastitis, with or without abscess; those with marked hyperplasia of the connective tissue in connection with abnormal involution; and in some who have benign tumors. Gross found the nipple retracted in 5.22 per cent. of non-carcinomatous growths. It is, however, in the latter, and indeed in all non-carcinomatous conditions, more or less mobile and rarely if ever infiltrated. In malignant conditions it is both immobile and infiltrated.

FIBROMA AND MYXOMA

It is manifestly impossible for a paper of this character to describe accurately each mammary growth. I shall only refer to the most common benign neoplasms, the adenofibroma or periductal fibroma and the periductal myxoma.

The periductal fibroma is either solitary or multiple, more often the former, and is not infrequently found affecting both breasts at the same time. It is situated indifferently in all parts of the breast. If it is more obnoxious to any portion of the gland it would seem to be the upper hemisphere. It is freely movable, encapsulated, occasionally lobulated, and now and then is the site of moderate discomfort, if not actual pain. In a few instances I have seen rather marked pain associated with very small fibromas. It is said to follow trauma in from 10 per cent. to 25 per cent. of cases.

Periductal myxoma is also common in women under 30, but occurs more frequently than does fibroma in older women. It also attains a greater volume, is of more rapid growth and is less apt to be accompanied by pain than fibroma. It is somewhat elastic to the touch, is always lobulated and is more frequently multiple than fibroma.

I have recently operated on a woman 47 years of age for such a growth, which was the largest tumor of this character that I have ever seen. It was of two years' duration. Its growth had been rapid during the past six

months, and was accompanied with some pain. The appearance of the breast was so suggestive of malignancy that it was pronounced inoperable carcinoma by a prominent surgeon of this city; hence, he declined to operate. Figures 6 and 7 show the appearance of the breast before operation. This case shows the fallacy of depending on the age of the patient as a guide to diagnosis. The patient's age, and the duration and size of the neoplasm with the discolored skin, certainly indicated the growth to be probably malignant. The absence of enlarged axillary and supraclavicular glands led me to operate. I had made a clinical diagnosis of sarcoma. The pathologists differ as to its microscopic appearance, one maintaining that it is a myxoma which has undergone sarcomatous change, the other denying that there is evidence of malignancy.

DIAGNOSIS

Enough, it seems to me, has been said concerning the several varieties of cysts. Suffice it to say that in the majority of instances they cannot be accurately diagnosticated clinically and their true nature will be revealed on exploration and macroscopic inspection or by means of only frozen sections.

The most reliable evidence of incipient cancer will be furnished by an examination of the entire breast after comparing it with its fellow. If there is atrophy of the superficial fascia over a mass, however small, and if in addition there is dimpling of the skin, however slight, over it, a diagnosis of cancer is reasonably certain, provided one can eliminate a previous mastitis. To detect this atrophy of the superjacent fat, and especially the dimpling or puckering of the skin, over a mass which may or may not be distinctly felt, is not easy if only a cursory examination be made. It is particularly difficult in small, deep-seated retromammary growths. In such circumstances pulling the breast forward with both hands will often exaggerate and make evident dimpling of the skin, and also perhaps retraction of the nipple, when such signs had not hitherto been elicited. A better test in my judgment is to move the breast freely, making it take the widest possible excursion, when the attached skin above is certain to be pulled on and to show noticeable dimpling if there has been any shortening whatsoever of its trabeculæ. In tumors situated superficially, the corrugated or orange-like skin may be either apparent or made so by pinching the skin between the thumb and fingers. Palpation is of the very greatest value. A benign growth feels more or less soft, smooth, circumscribed, encapsulated, and movable; carcinoma is hard, irregular, non-encapsulated, infiltrating, and immovable. Not infrequently are carcinomas movable for a time, but in my experience this is exceptional. Recently I saw, in consultation with Dr. L. W Steinbach and Dr. David Reisman, an unmarried woman, upward of 40, with a small, movable tumor, situated in the inferior and inner quadrant of the gland. It was extremely low down, growing from the periphery of the breast. Its nature was evident macroscopically, and the microscope showed it to be a typical scirrhous carcinoma. Sometimes, a better impression as to the nature of the growth will be furnished by palpating with the flat hand, pressing the breast firmly against the costal wall, rather than by using the fingers alone.

In conclusion, I wish to state positively my conviction that no one, however skilled, experienced, or careful he may be in his examination or in eliciting the history of the case, can safely determine the nature of a lesion before operation in more than 75 per cent. of his cases. In the remaining 25 per cent. *at least* either diagnostic incision or the use of frozen sections will be necessary. There is no doubt but that one of experience in such lesions will, as a general rule, be able to recognize them macroscopically, and it is very much better to do so, when possible, as it does away with the necessity of having present an experienced pathologist with his necessary apparatus. I maintain, however, that it will be only the very experienced surgeon, and moreover, one who has had considerable laboratory experience, who will be able to recognize benign and malignant growths with sufficient accuracy to warrant him in employing or withholding radical operation. It can usually be done in solid growths, but cannot be done with cysts, and the difficulty is greater in abnormal involution.

Macroscopically, periductal fibroma presents a distinct fibrous capsule. The tumor is rather hard and on section the surface is pinkish-white in color, especially in young tumors. In those which have remained in the breast for some years, the color is more apt to be white. The knife meets more resistance in cutting these growths than in sectioning normal breast tissue. There is occasionally slight lobulation. The cut surface is convex. These tumors rarely attain large size, though I have removed one as large as an orange from the upper and outer quadrant in a woman four months pregnant. The method of Warren was followed. Subsequently the child nursed this breast. The patient called to see me recently, four years after operation, to report herself as well and to thank me for sparing her breast.

Figure 8 represents very well the appearance of the breast before operation.[6]

A periductal myxoma also presents a fibrous capsule. To the palpating finger there is a more or less characteristic elasticity. The growth sections easily and the cut surface is distinctly lobulated. The glistening myxomatous lobule projects beyond the ring-like depressions of the firmer connective tissue.

The gross pathology of abnormal involution depends on the stage of the process. The early changes are those of hyperplasia. The affected breast is probably slightly larger than its fellow. It is firmer, but not usually uniform in this firmness. When cut, the breast is found to contain an excess of connective tissue, although the parenchyma is also increased. There will nearly always be minute cysts found here and there, no matter how early the process is discovered. Later on, these tiny cysts dilate, and then the cystic stage may be said to have been reached. The thickened areas are not so hard as those characteristic of scirrhous carcinoma, and do not show the same tendency to infiltrate the surrounding fat. The color is whiter than carcinoma. The lymph-nodes may be somewhat enlarged, but do not show the appearance typical of cancer.

It is exceedingly difficult to differentiate abnormal involution from scirrhous carcinoma, and in fact, it is my opinion that it frequently cannot be done without the aid of the microscope. Scirrhous carcinoma has certain characteristics that should be recognized from gross appearances. It usually begins as a more or less localized area of intense hardness, with the characteristic adhesions to skin and muscle, with, frequently, retraction of the nipple. On section, the tissue cuts with increased resistance, but it is perhaps not so difficult to section as an area of abnormal involution. The color

6. The appearance of the tumor itself after removal is shown in Figure 20, page 112, in my book on Diseases of the Breast.

is distinctly gray, a contrast to the white normal breast, and dense strands of connective tissue may be seen running between yellowish streaks composed of epithelial tissue. The cut surface retracts after sectioning. The mass can be seen to have no definite limitations, but to be sending infiltrating processes in various directions. Of course, if there have been metastases to the lymphatic glands in the axilla, the diagnosis of malignancy becomes more certain. Metastases may be recognized in general by large, white, firm glands which, if carefully examined, however, will show some remaining portion of the normal gray lymphoid tissue.

FROZEN SECTIONS

I am fully aware that some excellent microscopists more or less discredit the reliability of frozen sections and do not think freshly stained as reliable as fixed specimens. I am not sufficiently experienced in microscopy to discuss this subject. I do know, however, that in more than fifty cases where frozen sections have been made for me during the past seventeen years, but two mistakes have resulted. One of them was made by a young man, inexperienced in the method, who volunteered, in the absence of my customary pathologist, to act for him. He had never resorted to the method before. He reported a case of abnormal involution in a woman 46 years of age as malignant, when a subsequent and more careful examination failed to reveal positive evidence of cancer. I do not think, however, that a mistake was made in sacrificing the entire gland in this instance, inasmuch as the breast was affected throughout by well-marked abnormal involution. Moreover, the patient's mother and sister had died of cancer of the breast. The second mistake was made in a case in which a clinical diagnosis of probable carcinoma had been made in an unmarried woman 41 years of age. It was more than pardonable, as when the second examination was made from fixed specimens ten days later, not the slightest evidence of malignancy was encountered until the thirteenth section was examined. So the mistake might just as well have occurred as a result of the second examination as the first, had not so many sections been prepared and carefully examined. The result of the second examination was promptly and candidly reported to the patient, who was fortunately intelligent enough to accept it in the proper spirit and submitted the next day to a radical operation. I am pleased to state that at the end of eighteen months she remains entirely well.

It is most important to give to the pathologist the entire tumor, and not a small portion taken at random. The mistakes reported are not due to the method or principle, but to its interpretation. In other words, the surgeon, and neither the method nor the microscopist, is at fault.

Dr. Charles Mayo and his pathologist, Dr. Louis B. Wilson, write me that during the last five years more than three hundred tumors of the breast have been removed and a microscopical diagnosis made from frozen sections while the surgeon waited for a report. I quote Dr. Wilson's words:

> No positive diagnosis has ever been given on a specimen which subsequently proved to be not carcinoma. So far as we have any history of the cases, no negative diagnosis has ever been given on a case which subsequently proved to be carcinoma. This rather unusual record is probably due to the fact that the surgeon almost invariably removed the entire tumor with a bit of the surrounding breast tissue before submitting it to the laboratory. When the tumor is very large, of course this cannot be done, but in such cases it is usually possible to make the diagnosis clinically. Cases positively diagnosed as carcinoma clinically are not included in the three hundred. If the tissue contains the pathologic evidence of carcinoma, it can be determined quite as well by a fresh stain as in fixed specimens.

Dr. Mayo also says that he does not think it possible for anyone always to tell the character of a solid or cystic growth of the breast by naked eye appearances. I am certainly of the same opinion, as said before, and I have found frozen sections so satisfactory for many years that I feel it my duty to make use of them in every doubtful case. I invariably explain the situation to the patient and get her consent for a complete operation, should it be necessary. Moreover, there is this advantage in the practice—I find that some patients who would refuse a radical operation offered unconditionally will consent to it on the condition of the microscope's furnishing undoubted evidence of malignancy. In other words, they will consent to a mutilation probably necessary when they would refuse such assent believing that it would certainly be necessary.

OPERATIVE METHODS

During the last five years, I have invariably practiced Warren's method of plastic resection in all benign growths and in those of questionable nature. No matter where the tumor is situated, or whatever its size, be it large or small, I think that the free incision, beneath the breast, which leaves no unsightly scar and which furnishes the best opportunity to examine the entire breast carefully, is much better than a smaller incision directly over the tumor. I have not had in a single case the slightest reason to regret its employment, for in cases of advanced abnormal involution, or even malignancy, I have been prevented from going astray by depending on the report promptly furnished from examination of frozen specimens. In all cases of doubt, the wound is promptly cauterized with the actual cautery, and plugged with gauze while awaiting the microscopic report.

I must insist that the danger of infecting the wound by liberating cancer cells has been greatly overestimated, and that such danger is reduced to a minimum provided the actual cautery is employed. I am unwilling to say that the risk is entirely overcome in this way, but it is rendered so slight that it is practically negligible and is as nothing to the hazards of delay until a clinical diagnosis can be made.

Better results in the operative treatment of malignant disease here and elsewhere must come, if they come at all, only by resorting to diagnostic incision and frozen section reports in doubtful cases. I have greater faith in frozen sections, and always rely on them in hospital practice; but when operating apart from a hospital and a competent pathologist, have tried to teach myself to recognize macroscopically the several conditions likely to be encountered.

I wish to state positively my position concerning incision for diagnostic purposes *only*, the wound being closed and the action of the surgeon governed by a report from the laboratory made days or weeks subsequently. In the light of our present knowledge there is no warrant for such procedure, as cancer cells are disseminated thereby, and a radical cure from a second operation, however early and extensive, is rendered far less likely.

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RECENT STUDIES ON LIPOIDS*

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The constituents of any tissue can be conveniently subdivided into three main groups, according to their physical properties.

1. Solid aggregates (fat droplets, glycogen granules and solid structures).
2. Colloids (proteins and lipoids).
3. Crystalloids (salts, water-soluble extractives like creatin, etc.).

In the first group, the fat droplets and glycogen granules occupy about the relation to a living cell that the coal in the tender does to a locomotive. They serve as a convenient source of energy, but do not represent an essential part of the functionally active machine. The crystalloids in a good many cases, but by no means in every case, represent end-products of chemical activity, and as such do not concern us here. The colloids, a name originated by Graham,[1] form an essential part of the mechanism of the living cell, and as such represent larger aggregates of molecules, which are on the borderline between suspensions and true solutions.

Their ability to change this state of aggregation is of great functional significance as will be illustrated later. A very good discussion of the properties of colloidal solutions has been given by A. A. Noyes.[2] The colloids of the tissues are further subdivided into two main groups, the proteins and the lipoids. The term "lipoid" was introduced by Overton[3] to designate a class of compounds which are characterized by their solubility in various fat solvents, and occur in large quantities in the nervous system. In their chemical properties and structure the lipoids do not resemble one another very closely, but their relation to fat solvents and their peculiar ability, as distinguished from the neutral fats, to form permanent emulsions or colloidal solutions with water, make it convenient to consider them as a group.

A study of their biologic properties has further served to justify this classification. The credit for first calling attention to certain members of this group belongs and has always been given to Hoppe-Seyler.[4] The pioneer work on the lipoids of the nervous system has, however, been done by Thudichum,[5] and it has been my privilege at various times to call attention to the splendid work of this much-neglected investigator, who during his lifetime received practically no recognition, even from his immediate colleagues. The classification of lipoids given in the table is essentially due to Thudichum, although the term "lipoid," as already stated, was introduced more recently by Overton.

CLASSIFICATION OF LIPOIDS ACCORDING TO THUDICHUM

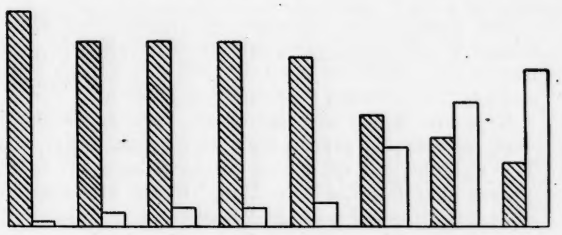
1. Cholesterols (carbon, hydrogen and oxygen).
   Structure: Unknown.
   Example: Cholesterol (formerly incorrectly called cholesterin).
2. Cerebrosids (carbon, hydrogen, oxygen and nitrogen).
   Structure: Unknown.
   Groups isolated and identified: Galactose.
   Example: Phrenosin (cerebrin).
3. Phosphatids (carbon, hydrogen, oxygen, nitrogen and phosphorus).
   Structure: Not satisfactorily known. Esters of orthophosphoric acid.
   Groups isolated and identified: Palmitic, stearic, oleic, linolinic and glycerophosphoric acids, cholin.
   Examples: Lecithin, kephalin.
4. Sulphatids (carbon, hydrogen, oxygen, nitrogen, sulphur, and sometimes phosphorus).
   Structure: Unknown. Esters of sulphuric acid.
   Example: Cerebrosulphatid.

The anatomic term "myelin," introduced by Virchow,[6] and the rather indefinite protagon first mentioned by Liebreich[7] have been omitted from the above classification as not sufficiently well characterized chemically. The chemistry of the above groups is still in an unsatisfactory condition, but a considerable number of investigators are at present engaged on this subject. The biologic significance of the lipoids has also until recently been very much overshadowed by the greater interest in the proteins. The relative proportions in which the two groups occur in various tissues is shown by the illustration.

The fact that most tissues contain more protein than lipoids does not, however, argue for the relatively lesser importance of the latter group, for as will be shown presently, even the comparatively small quantity of lipoids in the erythrocyte have an important biologic function. The biologic rôle of the various lipoids will be considered under the headings as outlined in the table.

CHOLESTEROLS

Cholesterol, or to use the older less correct term, cholesterin, is familiar to everyone as a pearly white crystalline substance, which is found as the constituent of some



Proportion of protein (shaded) to lipoid (white) in different tissues. A, erythrocyte; B, striated muscle; C, heart muscle; D, kidney; E, liver; F, brain at birth; G, adult brain; H, corpus callosum.

gall-stones and can sometimes be observed in museum jars in which brains have been preserved in alcohol. Cholesterol by itself is probably of very little value to the organism, but in conjunction with the other lipoids, there is good reason to believe that it has an important function in adding stability to certain membranes. The very considerable quantity in which it occurs in the sheath of the medullated nerve fiber lends support to this suggestion. That it may serve a similar function in the stroma of the red blood-cell has been demonstrated to be probable by Ransom[8] who showed that saponin in producing hemolysis does so by interaction with cholesterin. K. Meyer[9] has lately suggested that the lecithin may also play a rôle in saponin hemolysis.

The recent observations of Faust[10] that the hemolytic substance of the flat worm *Bothriocephalus* is a cholesterol oleic acid ester, is also of interest in this connection, on account of the significance which has been attached to this finding regarding the etiology of certain

* Read before the Pathological Society of Philadelphia, Dec. 8, 1910.

1. Graham, T.: Phil. Tr. Roy. Soc. London, 1861, cli, part 1, p. 183.
2. Noyes, A. A.: Jour. Am. Chem. Soc., 1905, xxvii, 85.
3. Overton, E.: Studien über die Narkose, Jena, 1901, Gustav Fischer.
4. Hoppe-Seyler: Med.-Chem. Untersuch. Tübingen, 1867, i, 215.
5. Thudichum: Die chemische Konstitution des Gehirns des Menschen und der Tiere, 1901, F. Pietzcker. Tübingen. (See also for review of older French literature Chap. I.)
6. Virchow, R.: Virchow's Arch. f. path. Anat., 1857, xii, 483.
7. Liebreich: Ann. d. Chemie, 1864, xxix, 134.
8. Ransom: Deutsch. med. Wchnschr., 1901, xxvii, 194.
9. Meyer, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 363.
10. Faust, E. S.: Arch. f. exper. Path. u. Pharmakol., 1907, lvii, 367.

forms of pernicious anemia. The finding of hemolytic lipoids in cancer tissue may also be mentioned here, but the nature of the lipoid concerned has not yet been made out.

CEREBROSIDS

The principal member of this group, cerebrin, was first described by Müller.[11] The fact that the cerebrosids occur principally in medullated nerve fibers led Takaki[12] to investigate their possible relation to the ability of the tetanus toxin to follow a nerve trunk and thus reach the central nervous system from the periphery. The experiments, which consisted mainly in the study of the power of cerebrin and some of its derivatives to neutralize the toxic action of tetanus toxin, were not very conclusive.

Similar experiments with a greater variety of preparations were tried some years ago in cooperation with the late Dr. H. T. Ricketts. The variations were, however, within the variations to be expected in this kind of work and consequently were never published. The fact that this group contains galactose might suggest a nutritive function for the nerve fiber, if it were not such a common phenomenon to have the organism build up into structural elements and thus render useless as food certain groups which might otherwise serve as sources of energy. The high carbohydrate content of the chitinous shells of certain crustaceans is a good illustration of this phenomenon.

THE PHOSPHATIDS

The phosphatids, so named by Thudichum,[5] usually appear as yellowish, waxy substances which show some tendency to crystallize when dry, but very quickly soften and lose this tendency when exposed to the air.

Exposure to the air also causes them to darken in color, so that old preparations may appear quite dark. The phosphatid with which we have been up to the present most familiar is lecithin. It was first carefully studied by Hoppe-Seyler[4] and found by him to be pretty generally distributed in all forms of protoplasm. The various subgroups into which the phosphatids have been divided for purposes of chemical study will not be here taken up, but the considerable variety of biologic phenomena will be considered in which this interesting group of lipoids appears to play a rôle.

Relation to Inorganic Salts.—The fact that in the extraction of a tissue with a fat solvent, the greater part of the ash constituents, especially the sodium and potassium, follow the phosphatids, and do not remain behind with the proteins to any appreciable extent, is of significance.

A protein after purification may retain an ash content of 0.5 and 1.0 per cent., but phosphatids will carry through such solvents as anhydrous ether an ash content ranging from 2 to 5 per cent.

The importance of this relationship is further illustrated by direct experiment. It is possible by precipitation reactions on colloidal solutions of lecithin to reproduce both qualitatively and quantitatively the antagonism between calcium chlorid and sodium chlorid observed by Loeb[13] on such living forms as starfish eggs or frogs' muscles. In the presence of sodium chlorid the amount of calcium required to cause a precipitate is materially increased. As the amount of sodium chlorid is increased, greater amounts of calcium are required; in other words, sodium chlorid antagonizes the calcium, an action which Mathews[14] has shown to be due to the chlorin ion.

Williams[15] has made the interesting observation that the increase in sodium chlorid, however, cannot be carried beyond that of a physiologic salt solution. As soon as the concentration exceeds this, the chlorin of the sodium chlorid can no longer antagonize the calcium, and the sodium now begins to aid the calcium in the process of precipitation.

The importance of a physiologic salt solution appears, then, to be not only to keep up the osmotic pressure, but also to keep the physical state of aggregation of the colloids at an optimum. It seems tempting to bring the phenomenon of chlorid retention in the tissues in certain diseases into relationship with changes in the colloids, which so change their state that this optimum is shifted and a higher concentration of sodium chlorid can still antagonize the calcium.

Relation to Hemolysis.—Hemolysis may be considered as a type of reaction in which a stroma or plasma membrane, which is considered by Overton to contain lipoids, undergoes changes of permeability as the result of variation in external conditions. Hemolysis is thus a special case of that larger type of biologic reactions of which plasmolysis in plant cells, cytolysis in animal cells, the fertilization of the egg cell and the phenomenon of bacteriolysis are further examples.

Hemolysis by cobra venom, according to Ehrlich, takes place as the result of the interaction of three factors—the amboceptor or cobra venom, the complement present in the serum and the receptor group in the corpuscle itself. Kyes[16] has made the very interesting observation that lecithin, which is itself not hemolytic, can enter into the reaction and behave like the complement. The reaction of cobra venom with lecithin was interpreted by Kyes as in the nature of a combination with the formation of a cobra lecithid. Manwaring,[17] in a recent repetition of this work, has come to the conclusion that the cobra lecithid of Kyes is a lecithin from which the oleic acid has been split off by a lipolytic ferment contained in the venom. The fact that the cobra lecithid, the product of the action of cobra venom on lecithin, is highly hemolytic, remains unaltered by this interpretation.

More recently Noguchi[18] has shown that in the Wassermann complement deviation reaction for syphilis, the antigen may be in the nature of a lipoid, which in its solubilities resembles the phosphatids.

Relation to Products of Tissue Metabolism.—Williams[15] has shown that lecithin may combine with and be altered in its state of physical aggregation by such tissue metabolites as ammonia and bile-salts, epinephrin, etc.

In the case of the epinephrin it has the power to protect this substance from oxidation. Thus a watery solution of epinephrin, which quickly oxidizes and loses its physiologic activity on standing, can in the presence of lecithin retain its activity for weeks, provided bacterial decomposition of the lecithin is avoided.

Relation to Drugs.—The theory of narcosis originated simultaneously by Overton[3] and by Meyer[19] was one of

11. Müller, W.: Ann. d. Chemie, 1858, cv, 361.
12. Takaki, K.: Beitr. z. chem. Physiol. u. Path., 1908, xi, 288.
13. Loeb, J.: Am. Jour. Phys., 1902, vi, 411.
14. Mathews, A. P.: Am. Jour. Phys., 1904-1905, x, xi, xii and xiv.
15. Koch, W., and Williams, A. W.: Jour. Pharmacol. and Exper. Therap, 1911, ii, No. 3.
16. Kyes, P.: Biochem. Ztschr., 1907, iv, 99.
17. Manwaring, W. H.: Bull. Johns Hopkins Hosp., 1910, xxi, No. 234.
18. Noguchi, H.: Jour. Exper. Med., January, 1911.
19. Meyer, H.: Arch. f. Exper. Path. u. Pharmakol., 1901, xlvi, 338.

the first studies to call attention to the subject of the lipoids in relation to pharmacologic problems.

A glance at the illustration will show why a substance soluble in fats or lipoids should become largely localized in the nervous system, on the theory that a substance distributes itself between two solvents in proportion to its relative solubility in each.

The very marked affinity which the anesthetics and hypnotics possess for the nervous system is correlated with the high lipoid content of that tissue. The assumption that changes in the physical state of aggregation of the phosphatids, induced by the presence of the anesthetic, are responsible for the phenomenon of narcosis, was investigated by McLean[20] and found not to hold as far as the general phenomenon is concerned.

He did find, however, that chloroform changed the state of aggregation of lecithin, and presented evidences of chemical combination, while ether, alcohol and chloral did not. It seems more reasonable therefore to bring this phenomenon into relation with the well-known difference in the elimination of ether and chloroform and the consequent tendency of the latter to produce delayed poisoning.

An interesting clinical application of the theory of Overton and Meyer has recently been made by Graham.[21] On the basis that the nausea and vomiting following an operation are largely due to the excretion of the anesthetic into the stomach, he gives his patients pure olive oil. This absorbs the anesthetic and has so far been attended with very satisfactory results.

Overton also extended his theory to other drugs and suggested that the alkaloids may be taken into the nervous system by the lipoids. He does not give any experimental evidence. This has been supplied by Mostrom[22] in the case of strychnin in the following experiment:

The free alkaloid strychnin, which is only very slightly soluble in water, is shaken with water for one hour; 0.3 c.c. of the resulting filtered solution injected into a 40-gm. frog, requires thirty to forty minutes to produce tetanus. If instead of distilled water an emulsion of lecithin is used, a much larger quantity of strychnin goes into solution and tetanus now occurs in two or three minutes.

We see from this that the lecithin by combining with the strychnin is the means of bringing it into solution. We can conceive that the lecithin of the nervous system picks up the strychnin from the blood-stream in a similar fashion. Lecithin would be behaving, then, in this case as a chemoreceptor group in Ehrlich's interpretation of the term. The fact that the strychnin, when combined with this chemoreceptor group, can still exert its physiologic activity, is characteristic of this type of combination. If we were dealing with a toxin of the nature of tetanus toxin, which also has an affinity for the nervous system, the combination would be much less dissociable, and the toxin consequently not free to act. (The chemical nature of the receptor group for tetanus toxin has not yet been determined: see under cerebrosids.) This difference is dissociability between an alkaloid receptor combination and a toxin receptor combination is undoubtedly one of the reasons why all attempts to produce antiserums for alkaloids, as for instance morphin[23] have failed.

20. Koch, W., and McLean, F. C.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
21. Graham, Evarts A.: Olive Oil for Postanesthetic Anesthesia. THE JOURNAL A. M. A., Dec. 18, 1909, p. 2094.
22. Koch, W., and Mostrom, H. J.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
23. Cloetta, M.: Arch. f. Exper. Path. u. Pharmacol., l, 453.

Relation to Problems of Specificity.—It is tempting to extend such observations as the above to the problem of the specific attraction which certain tissues have for certain drugs. An observation which has a bearing on this was made by Erlandsen[24] when he discovered a phosphatid to which he gave the name "cuorin," which occurred only in heart tissue and in no other type of muscular tissue. Whether or not such compounds can be brought into relation with such specific affinities of the tissues remains to be more carefully studied. The observation made by Pike[25] that the proportion of potassium to sodium is higher in kephalin (2 to 1) than in lecithin (2 to 8) may be interpreted as indicating a specific attraction of kephalin, as distinguished from other colloids, for potassium.

This observation has an important bearing on the ability of tissues to preserve a higher concentration of potassium than occurs in the surrounding fluids.

SULPHATIDS

This interesting class which occurs largely in the medullated nerve-fiber has only recently been obtained in a state approaching purity, and consequently very little studied biologically.

In concluding, then, it is interesting to note the considerable number of biologic phenomena in which the lipoids play a rôle. The only practical application which has come to the attention of the medical profession has been the attempt to exploit lecithin commercially as a brain and tissue food. The fallacy of this I have already pointed out in a previous article,[26] and it is to be hoped that such attempts will not detract from the interest which should attach to further work on the subject of the lipoids.

A REPORT ON THE THERAPEUTIC EFFICIENCY OF SALVARSAN

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During the early part of September, 1910, I personally investigated Ehrlich's work in the treatment of syphilis with salvarsan. I have not made a report earlier, first, because I wished to make some observation of the results obtained by physicians in this country, and to acquire some experience in using the remedy in my own work; and second, because I believed that it would be dangerous to permit the idea to become general that a single dose of salvarsan would permanently cure syphilis.

My own experience with salvarsan, and the observations I have made of this work carried on both in this country and in Europe, lead me to the conviction that under no circumstances should it be used without also using mercury or the iodids. If we can conceive of making a diagnosis of syphilis so early that not a single spirochete has become encapsulated, but all lie free in the circulation, then we might entertain the theory of a single injection of salvarsan destroying completely the invading organisms.

The question naturally arises: What is the rôle of this new treatment, and what is its real merit?

24. Erlandsen, A.: Ztschr. f. physiol. Chem., 1907, li, 71.
25. Koch, W., and Pike, F. H.: Jour. Pharmacol. and Exper. Therap., 1911, ii, No. 3.
26. Koch, W.: Phosphorus Compounds as Brain Foods, THE JOURNAL A. M. A., May 1, 1909, p. 1381.

Experience in the treatment of syphilis with the preparation appears to be sufficient at this time to warrant the statement that it is the therapy of election in the following stages of the disease:

1. With the appearance of the chancre, or sooner, if an absolute diagnosis can be made, with the hope that this remedy may reduce to a minimum the possibility of general contamination during this stage of the disease.
2. In all affections of the mouth, throat and mucous membrane of the nose.
3. In the class of obstinate cases with cutaneous lesions that do not yield to mercury or the iodids.
4. In all cases of gummata.
5. In those affections of the central nervous system in which the spirochete may remain as the exciting element.
6. In congenital syphilis.
7. In the galloping syphilis of Unna.

Of course it is understood that before salvarsan is used in any case the tenets of Ehrlich should be fulfilled—that is, that the patient be kept under observation in a hospital for four days, where a careful record of his physical condition may be made, particular attention being paid to the condition of the heart, kidneys, eyes and ears. In other words, aside from the syphilitic taint, the patient must be in a healthy condition. The fatalities and serious complications have occurred in patients with lesions other than those due to syphilis.

Ehrlich's studies led him to believe that parasites can be destroyed only by substances to which they have a certain relation, which substances he designated as "parasitotropes." Poisons which have relations to essential organs he termed "organotropes." Ehrlich pointed out that only such substances can be used as remedies in which organotropy and parasitotropy have a right relation. This investigation led to the conclusion that when a parasitotrope was injected into the host either the invading organisms were immediately killed, or if any organisms lived through this form of treatment they were rendered tolerant to subsequent injections of this substance.

Consequently the early treatment of syphilis by the injection of salvarsan was based on the above theory. It seems difficult to conceive a condition in any stage of syphilis in which every single spirochete was free in the circulation at the same time. One can scarcely reconcile this condition even at the moment of reception of the spirochete into the host because of Nature's ability to wall off invading organisms; yet it is just possible that a complete extirpation of the spirochetes might be accomplished in this way, if the diagnosis of syphilis could be made early enough. It does not seem as though the disease could be recognized early enough to make the hope of having an absolute cure of syphilis from a single injection of salvarsan a well-grounded one.

The determination of the immediate efficiency of this form of treatment is based on the Wassermann reaction becoming negative within a reasonable length of time after the injection, usually in about five weeks. An idea of the efficiency of salvarsan can best be given by recording a brief summary of the results of the Wassermann test in some of the clinics in which this treatment was first carried out.

The following compilation of results is made from a recent report from Dr. Ehrlich, entitled, "Die Salvantherapie: Rückblicke und Ausblicke":

1. In the Weintraud Klinik, 124 patients in the second and third stages of syphilis were all Wassermann-positive before treatment. After a single injection of salvarsan fifty-seven became negative, while sixty-seven remained positive. Weintraud was of the opinion that by systematic reinjections it is possible to bring the percentage of Wassermann-negative cases to 90 per cent.; then by the use of mercury to bring about a negative Wassermann in the remaining 10 per cent. of cases.

2. Gennerich[1] treated 81 patients with severe cases and produced a negative Wassermann in all but three cases.

3. Schreiber, Magdeburg, succeeded in producing a very high percentage of Wassermann-negative conditions by a repetition of the injection.

4. Fabry-Dortmund, with the alkaline solution introduced by the intramuscular method, had only six recurrences out of 385 patients treated.

5. Dr. Schulz, Strassburg, by the subcutaneous method, had four recurrences out of sixty-three cases. Two of these returns were due to a gangrenous condition at the site of the injection, which necessitated incision and drainage. All four became Wassermann-negative in a short time, after being treated by the intravenous method.

6. In this country, Murphy, of Chicago, has had an extensive experience in the use of salvarsan. Out of 100 patients treated by the "suprafascial" method, he has had one bad result, which was due to an encapsulation and lack of absorption of the mixture at the site of the injection, that had to be opened and drained. The suprafascial method introduced by Murphy is as follows:

The needle is inserted at the level of the tenth rib, and at a point one and one-half inches from the median line posteriorly. The needle is directed outward and downward parallel to the tenth rib reaching to the fascia overlying the loins, and the mixture is deposited on the fascia.

Another point of much importance to decide in this connection is the safest and most efficient method of administration. Of the various methods used, only two need be considered, viz., the intramuscular (including the suprafascial), and the intravenous. A solution of this problem can best be reached by presenting a brief résumé of the results obtained by some of the most experienced and accurate workers.

The following is a translation of an extract from a letter just received from Dr. Ehrlich, under date of Frankfort a/M., 4 Feb., 1911:

"I should like to remark that I, as you well know, am much in favor of the intravenous injection, and that preferably this should be repeated two or three times in very early cases (the second stage), as Weintraud does in Wiesbaden. He makes an intravenous injection three times within four or five weeks, using 0.4, or at most 0.5 in men, and the result is that in over 90 per cent. of cases the Wassermann reaction is negative."[2]

The results reached, as already cited, by Fabry-Dortmund in a large experience with the intramuscular method, and by many other workers of large experience who use this method of administration, and those of Murphy of Chicago by the suprafascial method, should prove conclusively that the extravenous methods are efficient. Whether this efficiency reaches the same degree as that of the intravenous I cannot say. On the other hand, I can state most emphatically that the latter method is much more dangerous, and while this danger

1. Berl. klin. Wchnschr., 1910, No. 46.
2. "Ich möchte mir noch die Bemerkung erlauben, dass ich, wie Sie wohl wissen, sehr für die intravenöse Injection bin und dass diese zumal bei ganz frischen Erkrankungen (Syphilis II), am besten 2-3 Mal widerholt wird, wie dies Weintraud in Wiesbaden tut. Er injiziert innerhalb 4-5 Wochen 3 Mal intravenös, Männern 0.4 bis höchstens 0.5 und erreicht, damit dass in weit über 90% der Wassermann negative wird."

may be reduced to a minimum by scientific management and the experience in technic possessed by the operator, still there is an element of danger over which experience exerts no influence, viz., the possibility that this arsenical preparation undergoes a chemical change when introduced into the direct circulation, which at times may have a deleterious or even fatal effect.

Since all operations or methods of therapy have as a purpose, first, the saving of life, and second, efficiency, it would seem most rational to conclude by strongly recommending the administration of salvarsan by the extravenous methods, viz., the intramuscular and the suprafascial, and in those cases proving refractive to this mode of treatment, readministering it by the intravenous method.

My own experience in the administration of salvarsan has been by the extravenous methods, both the intramuscular and the suprafascial. Sufficient time has not elapsed to make a complete report on these cases; however, I wish to state that there have been no complications and the patients have experienced very little distress after this form of administration. From a clinical point of view they show evidence of a subsidence of the disease.

CONCLUSIONS

1. The medical profession should use every effort possible to eradicate the idea that appears to have become prevalent in the minds of the laity, and, indeed, of many of the profession, that a single dose of salvarsan will permanently cure syphilis.

2. Salvarsan should be administered under the best scientific conditions possible, which means that no patients should be treated until they have been in a hospital four days and careful records made of their physical condition. Only patients in a healthy condition, aside from the syphilitic taint, should receive this form of treatment. Any attempt to treat patients when these precautions have not been taken, or any unscientific use of the preparation, should be strongly opposed by the profession, as these attempts are sure to result disastrously to the patient and also to detract from the merits of the remedy.

3. Salvarsan is the treatment of election in the conditions of syphilis enumerated in this paper, but under all circumstances should be followed by mercury or the iodids, or by both.

4. Administration by the intramuscular or suprafascial route should first be instituted, as it is the safest method, and in the event of the patient not becoming Wassermann-negative, it is then time enough to employ the more dangerous intravenous method.

100 State Street.

Intestinal Anastomosis.—The various instruments and appliances formerly used to facilitate work on the intestines have nearly all been discarded for the simple but efficient method of intestinal anastomosis by thread and needle. The general condition of the patient should be as near par as is consistent with the exigencies of the case. All organs should functionate properly and the temperature and blood should be about normal, to obtain the maximum results in surgical work on the intestines. The work should be carefully but rapidly performed, which is oftener the case when the surgeon has from practice or experimental work on the lower animals become skilful in the use of needle and thread. A positive blood-supply to the tissues making up the anastomosis is necessary. The end-to-end method is not so certain, therefore the side-to-side anastomosis should be chosen whenever convenient. A. E. Benjamin, in *Lancet-Clinic.*

A CASE OF HEMATOSALPINX WITH CERVICAL ATRESIA

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Patient.—N. H., aged 15, white, schoolgirl, was eldest of three children, complained of pain in the left lower abdominal quadrant with nausea and vomiting.

Family History.—This was unimportant. The mother menstruated at eleven.

Personal History.—Birth was normal. The history was taken after the operation. General health had never been good. During childhood the girl had measles, mumps, whooping-cough, chicken-pox, diphtheria, scarlet fever, chorea and one attack of "slow fever" lasting a week, with severe headache and delirium. She had always been nervous and delicate. Appetite was somewhat inordinate, and she craved unusual and unreasonable foods; digestion was good. There was no nausea or vomiting except during the attacks. Bowels usually moved every day. The urinary condition seemed to have been normal up to present illness, during which she suffered severe dysuria. Following diphtheria and scarlet fever at the ages of 5 and 6, patient had a troublesome white discharge (leukorrhea) irritating but not malodorous. Although 15 years old, the patient had never menstruated. Four years ago her mother noticed that she was unusually nervous, with dark circles under her eyes, and had headache and nausea, and thought that menstruation was about to begin; no flow ever appeared. In February, 1907, following such a train of symptoms as just mentioned, the patient had a sudden severe attack of pain in the right lower abdominal quadrant, associated with nausea and vomiting, lasting three or four days. Each month since, the girl has had headache with dark circles under her eyes. Never has there been a drop of menstrual flow. Similar attacks to the one in February, 1907, occurred in February, 1908, February and June, 1909, and June 12, 1910, the present one.

Present Illness.—Three days before consulting me, the patient began having a dull aching pain, sometimes sharp in character, in the left lower abdominal quadrant. It grew steadily worse and was so severe next day that nausea and vomiting set in. The pain became general and the right side was involved. She was not constipated.

Physical Examination.—Patient was an emergency case, and came to the hospital suffering severe pain in both lower abdominal quadrants. She looked ill. Pulse was 120, respiration 26, temperature 102.4 F., by rectum. The abdomen was rigid, and there was general resistance and tenderness, palpation being most painful in the left lower quadrant. A mass was distinctly felt in the right iliac fossa.

Diagnosis.—A diagnosis of appendix abscess was made.

Operation.—A small gridiron incision was made in McBurney's region. On opening the peritoneum, dark bloody fluid welled out. The examining finger encountered a smooth, elastic, crepitating mass, filling the right iliac fossa and extending to the median line. In appearance the mass was lobulated, and of dark bloody color. As it was impossible to deliver it through the small incision, an opening was made in the median line. The mass proved to be a large left-sided hematosalpinx, with twisted pedicles, containing 8 or 10 ounces of blood-clot. The tube at the cornu measured from 1 to 1.5 cm. in diameter; the ovary could not be distinguished from the mass. It was tied off with catgut and removed. The right tube and ovary were found lying in the cul-de-sac; the tube was dilated slightly, and the ovary enlarged and cystic, measuring 8 or 9 cm. by 4 cm. Both were removed. The uterus was normal. After cleaning out the small amount of dark bloody fluid the abdomen was closed in layers. The appendix was not seen.

Postoperative Notes.—Aside from inability to void urine for five days after the operation, the patient made an uneventful recovery. Temperature reached normal on the fifth day, never being over 101 F. The pulse dropped to 80 on the fifth day. Before discharge from hospital a vaginal examination was

made, using a cystoscope. The vulva was normal, the vagina narrow, measuring 9 cm. from a normal hymen to the cervix. There was a white thick leukorrheal discharge. The cervix was flush with the vaginal vault, completely closed, and the os marked with a dimple.

The case was one of cervical atresia, probably caused by the diphtheria or scarlet fever during childhood. The amenorrhea was the result of obstruction and the menstrual flow had accumulated in the tube. The patient, six months after operation, is in perfect health but has not menstruated.

I am indebted to Dr. K. P. Moore for allowing me to report this case, which came under his care in the Macon Hospital.

ARRESTED DEVELOPMENT OF ABDOMINAL PARIETES

ASSOCIATED WITH SHORTENED UMBILICAL CORD

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History.—The mother was a strong, healthy woman, Danish, aged 26, a teacher before marriage, and gave no history of uterine or pelvic troubles. No known relatives have been deformed. It was a first labor and a midwife was in attendance for about twenty-four hours. When I arrived I found the position to be R. O. P. The cervix was dilated to about 5 cm. Mother and fetus were apparently normal. Uterine inertia and powerful uterine contractions alternated for the next five hours without dilating the cervix to any extent. Chloroform was then given, the cervix dilated manually and high forceps applied. After each pull on the forceps, the head sprang back to its original place as if pulled on by elastic band. There was considerable hemorrhage between and during the efforts at traction. After about one hour the head reached the vulva; a pair of hemostats was clamped on the cord and the cord cut. The child was then delivered with ease. The placenta was immediately removed by the hand placed in the uterus. It was attached on the anterior superior part of the interior of the fundus.

Examination of Child.—The child was a female weighing 8½ pounds. A thin semitransparent membrane about the thickness of tissue paper extended from the xiphoid cartilage to one inch below the umbilicus. This membrane was elliptical in shape and about four inches across the broadest part. The abdominal organs—liver, spleen, stomach, and intestines—could be easily seen through this membrane.

The umbilical cord was 12 cm. (5 in.) long and 0.6 cm. (¼ in.) in diameter and lacking in the usual spiral windings. The greatly diminished diameter of the cord and lack of windings give one the impression that the cord was even shorter than 5 inches, its present length; but during the latter months of pregnancy had been elongated at the expense of diameter by the tension of the fetal weight and movements. The specific gravity of the fetus is always greater than that of the amniotic fluid; hence, with a cord suspended from the fundus of the uterus and not long enough to allow the fetus to reach the opposite extremity of the uterus, there would be tension on the cord. (In this case the uterus was 12 inches and cord only 5 inches.)

Operation.—At end of fourteen hours a red line extended all around the border of the membranous part of the abdominal parietes of the child. Chloroform was given, the membrane dissected off and the abdominal walls brought together, with through-and-through silkworm sutures. The umbilical vein was tied and cut under the liver. The urachus was patent from the bladder to the umbilicus. The urachus was closed by suture. A small Meckel's diverticulum was present and left untouched. Considerable difficulty was experienced in pulling the abdominal walls together over the liver and in replacing the intestines. The time of operation was one and a half hours. The baby left the operating table in fair condition, but died eight hours later.

Fourteen and a half months later the same woman gave birth to a healthy eight and a half pound boy. This second labor was normal, a L. O. A. position, and there was no deformity of child or cord.

This case emphasizes the fact that an abnormal position or presentation of a fetus should always cause us to suspect and search for some abnormality of fetus or mother's pelvis before considering it a mere chance abnormality. Most faulty presentations and positions have an ascertainable cause other than chance. In this case the presentation was cephalic:

1. Because the fetus was suspended by the short cord from the fundus of the uterus, and the cephalic end (from head to umbilicus) being longer than the caudal end (from umbilicus to coccyx) gravitated to the bottom of the uterus. Also the distance from sacrum to umbilicus is not long enough to allow the sacrum to reach the cervix, when the fetus is suspended on a five-inch cord.

2. The position was posterior, because in this position, with the placenta on the upper, anterior surface of the uterus, the short cord would reach furthest. In order to have allowed for an anterior position, with the placenta in this position, the cord would have had to wind around the fetus from umbilicus to back, which would have taken up so much of its length that the head could not have reached the cervix.

3. Hemorrhage during and between efforts at traction on the forceps was due to pulling on the placenta, causing some separation thereof.

4. Recoil of the head after traction on the forceps was due to the uterus assuming its original shape.

5. The fact that the head could be dragged to the vulva by the forceps with such a short cord was due to a partial inversion of the uterus during traction.

6. Uterine inertia was due to inability of the uterus to expel the child.

7. The statement of the midwife, if a correct observation, that the patient carried the child high in the abdomen and that there was no descent of the head until labor began, is also explained by the short cord.

A CASE OF SO-CALLED BOTTLE-MAKER'S CATARACT *

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Cases of bottle-maker's (often called glass-blower's) cataract, supposed to be due to prolonged exposure to excessive heat and bright light, are rarely seen except in localities where the industries that produce these changes are situated. This case is interesting on account of its occurring in one who has been a baker for many years, subjected daily to the continued high temperature of the bake-room.

History.—J. W., aged 41, has been working steadily as a baker for twenty-four years past. His sight, so he says, was always good. Three years ago he began to notice a gradual failure of vision, and now he cannot read the newspaper. He had not consulted anyone until Nov. 10, 1910, when I first saw him at my office.

Examination.—Vision, right eye, 15/80; left eye, 15/200; no improvement with glasses; urine negative for sugar and albumin; no signs of other intra-ocular disease. The lenses are absolutely clear, except in the posterior cortical zone, where there is situated a slightly irregular disk of opacity—half the size of the lens. The disk, especially by direct focal

* Read and patient exhibited before the Chicago Ophthalmological Society, Dec. 19, 1910.

illumination, can be seen to have a well-defined and somewhat thickened, irregular border. Slight hazy opacities can be seen in the center of the disk, and the same to a less degree outside of same in the posterior cortical plane of the lens.

That this case is exactly similar in type to glass-blower's cataract is proved by the words of Herbert Parsons and Marcus Gunn, who, in 1908, visited some of the important glass-works in England for the Royal Society, to gather statistics of industrial diseases for the framing of the Workmen's Compensation Act. They say:

Bottle-makers are subject to a form of cataract which appears to be characteristic, and is unlike other forms of cataract commonly observed. In its typical form there is a dense, well-defined disk of opacity in the center of the posterior cortex. Not infrequently slighter hazy opacities are seen around this posterior cortical disk.

Hirschberg describes it in a similar way, and in 1898 exhibited five cases of glass-blower's cataract. At the same time he drew attention to the peculiar color of the faces—the effect of heat on the skin. Most of the German literature on the subject seems to concede that heat is the factor that produces these changes in the lens and skin.

Weyl* mentions fire-workers, blacksmiths, puddlers, bakers and cooks as subject to this same change in the lens.

In a volume on industrial diseases, 1909, Greer says of bottle-maker's cataract: "It commences as a saucer-shaped opacity like a cobweb in appearance, and situated immediately within the posterior capsule of the lens."

The treatment which I am using is the method of von Pflugk and Verderau—instillations of 2 per cent. solution of potassium iodid, to be followed later by subconjunctival injections of the same. According to Hirschberg, these cases progress very slowly until 20/200 vision has been reached, when often a more rapid decline follows. When ready for operation they present a most favorable type for successful extraction.

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THE DIAGNOSTIC VALUE OF THE PARADOXIC REFLEX

AN ADDITIONAL ANATOMIC PROOF OF ITS PRACTICAL IMPORTANCE

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In December, 1904, I described[1] a new reflex under the name of paradoxic flexor reflex. I found it then present in cases the history of which pointed to organic diseases of the nervous system and especially of its motor tracts, and always associated with exaggerated knee-jerks. As is well known, Babinski's toe phenomenon is the clinical expression of a disease of the motor pathway.

The reflex can be elicited in the following manner: The patient may either lie on his back or sit on a chair with the feet (not the legs) on a stool. The feet must be slightly rotated externally; in this position complete relaxation of the muscles of the leg is obtained. The examiner must always place himself at the outer side of the leg; the thenar and hypothenar muscles of the right hand must be placed on the inner surface of the tibia of the patient and the fingers press deeply on the middle or the lower portion of the calf muscles. I say "deeply" because the pressure must be transmitted to the flexor muscles of the deep layer; sometimes pressure must be combined with lateral movements of the superficial muscles. If the reflex is present, extension of the great toe, or of all the toes, will be noticed. There is evidently no other muscle except the flexors that could be brought into display. The tibialis posticus, the peronei have an entirely different function from flexion or extension of the toes.

During my investigations I observed a peculiar relationship between these two reflexes. Babinski's sign was sometimes present and sometimes absent, but in the majority of my cases the paradoxic reflex was present on the side on which the Babinski sign was either absent or slight. It was present in those obscure cases in which the Babinski reflex was not obtainable.

My first series comprised thirty organic cases, in nineteen of which I observed that Babinski's sign and the paradoxic reflex showed a tendency to replace each other; viz., when one was slight, the other was marked and *vice versa*. There was a species of antagonism between the two reflexes.

My observations at the time of the first report were purely clinical. I had no anatomic proof to offer.

In December, 1908, I made a second report to the Philadelphia Neurological Society on fifty-eight cases. The diseases in which the reflex was studied were as follows: transverse myelitis, amyotrophic lateral sclerosis, hemiplegia, Jacksonian epilepsy, disseminated sclerosis, cerebrospinal syphilis and essential epilepsy. Here again I observed the same antagonism between the Babinski and paradoxic reflexes, viz., when one was present and pronounced, the other was absent; when one was mild, the other was pronounced. The latter fact was particularly conspicuous in seven cases of transverse myelitis: at first Babinski's sign was absent on one or both sides and the paradoxic reflex was present; two or three months later Babinski's sign made its appearance, and the paradoxic reflex completely disappeared or was faintly present. In one case of cerebrospinal syphilis in which the spinal symptoms were the most conspicuous, energetic mercurial treatment was instituted. The patient's mental functions, the ataxia and sphincters improved considerably. The knee-jerks, however, remained markedly exaggerated; ankle-clonus was present on one side, but Babinski's sign disappeared on one side and was only slightly preserved on the other; the paradoxic reflex remained intact and was easily obtainable.

As another illustration of the antagonistic relationship of the two reflexes may be mentioned six cases of Jacksonian epilepsy of the same series. In all there was paresis on the same side. When the examination was made immediately or shortly after the attacks, the knee-jerk was exaggerated on the affected side and the paradoxic reflex was easily elicited in all the cases, while Babinski's sign was in three cases only slightly present and in two others absent.

An analysis of all the facts observed and followed up led me to the conclusion that the paradoxic reflex is a valuable sign for diagnostic purposes at the beginning of an organic affection showing that the motor tract is being irritated; while Babinski's sign is of inestimable value in cases of a well-established lesion of the motor tract, the paradoxic reflex is a sign, to say the least, of a transient irritation or of a slight lesion of the same tract.

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* Weyl: Handbuch der Arbeiterkrankheiten, 1908.
1. Am. Med., 1904, viii, 971.

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That a transient irritation may be the cause of the reflex can be seen among other facts, especially from the following case:

CASE 1.—A lad of 12, in the course of typhoid fever, developed meningeal symptoms. He then had an attack of epileptiform convulsions on the right side which were followed by paralytic symptoms on the same side. I had an opportunity to examine him twice at an interval of two weeks. On both occasions the right knee-jerk was markedly exaggerated, there was no ankle-clonus and no Babinski sign, but the paradoxic reflex was present and easily elicited. The patient made a complete recovery; the paralytic symptoms, the increased knee-jerk and the paradoxic reflex disappeared.

My systematic study of sixty cases of paretic dementia[2] with reference to the reflexes of the lower extremities demonstrate the great rarity of the Babinski sign (on both sides in three cases and on one side in four cases), but the great frequency of the paradoxic reflex (in forty-two cases) in this disease. According to the pathologic reports in cases of paresis, the motor pathway is involved only to a very slight degree in the majority of instances. As Babinski's sign is usually the clinical expression of a well-defined degenerative lesion of the motor tract, the very moderate degree of pyramidal involvement will perhaps explain satisfactorily the rarity of Babinski's phenomenon in paresis. On the other hand, the presence of the paradoxic reflex in the largest number of my paretic cases finds its logical explanation in the slight degree of pyramidal involvement. This observation in paresis is therefore analogous to, if not identical with, the observation made in other organic nervous diseases, and tends to show, I believe, the correctness of my contention made in my earliest study of the significance of the paradoxic reflex.

From the clinical standpoint the diagnostic value of the paradoxic reflex appeared therefore to be established; it remained for me to corroborate it by anatomic proofs. That is to say, it was necessary to show that a real anatomic lesion was present in those cases in which during life the paradoxic reflex was the only or the most conspicuous sign and in which operative procedures were undertaken for this reason with satisfactory results so far as the finding of the lesion is concerned. Soon such opportunities presented themselves.

In 1906 and 1907, I had the opportunity to observe two cases.[3]

CASE 2.—In this case, in which a localized hemorrhagic pachymeningitis was found in the right motor area, the paradoxic reflex was very distinct on the left together with a slightly exaggerated knee-jerk on the same side, but there was total absence of Babinski's and Oppenheim's toe phenomena and of ankle-clonus. The paradoxic sign was the most prominent symptom. When the blood was removed by the surgeon from the right hemisphere, the patient regained consciousness (he was deeply comatose before the operation), improved considerably and on the second day the patellar tendon reflex became normal and the paradoxic sign totally disappeared. Four days later, the same phenomena returned and the patient again became stuporous; the abnormal reflexes returned. The patient died two days later. Autopsy showed a reformation of the blood clot in the right hemisphere over the Rolandic area.

CASE 3.—This concerns a man who complained of pain in the right side of the head in the same place where he received an injury six months previously. There was also marked mental hebetude and somnolence. The left knee-jerk was exaggerated and the paradoxic reflex was obtained with the greatest facility. There was no Babinski reflex, no Oppenheim sign, no ankle-clonus. The contrast between the flexion of the toes on the right side and extension on the left on pressure of the calf muscles was most striking. Trephining of the skull with exposure of the upper part of the Rolandic area was performed. As the opening was made, the cerebral tissue bulged out; it was evidently under high tension. The surgeon immediately closed it up. Rapidly the patient regained his intelligence; the somnolence and headache totally disappeared. At the end of forty-eight hours the paradoxic reflex became weaker and on the fourth day could no more be elicited. The patient was reexamined six weeks later; the paradoxic reflex and the increase of the knee-jerk were totally absent.

These two cases with the anatomic proofs corroborated in the most forceful manner the conclusions which I reached at the beginning of my studies from purely clinical observations, to wit, that the paradoxic reflex is a sign of value in the beginning of an organic affection of the motor system or in cases of its irritation, while Babinski's sign is of inestimable value in cases with a definitely established lesion of the motor pathway.

I wish to add a third anatomo-clinical case which, like the previous two, presents an exceedingly definite illustration of the diagnostic value of the paradoxical reflex and of its practical bearing.

CASE 4.—*History.*—An Italian laborer, aged 23, of excellent health, during a quarrel sustained an injury over the left frontoparietal region at its upper level. He was struck with a piece of heavy iron. Laceration of the scalp ensued and a swelling of the parts of the size of a silver half dollar followed. There was no loss of consciousness, but mental hebetude and distinct motor aphasia developed. All the man could say was "yes" or "no." The patient came under my observation through the courtesy of Dr. I. Cortese about ten days after the trauma. On examination I found the above-mentioned hebetude and the motor aphasia. The patient could comprehend fairly well when spoken to, but was unable to articulate. Various objects were shown him and wrong names given them; when asked whether they were the proper names of the objects, he answered correctly "yes" or "no." Voluntarily, he could not articulate other words, or repeat them when spoken to him. There was no word-blindness or word-deafness.

Examination.—Physical examination showed good station and gait. The power of the right lower extremity was very slightly diminished, so slightly that the defect could be easily overlooked if the patient were not very closely examined. This was done by testing the resisting power of the thigh, leg and foot and comparing it with that of the corresponding segments on the opposite side. The right knee-jerk was also slightly more marked than the left; nevertheless the difference was distinct on repeated examinations. There was no ankle-clonus, no Babinski reflex, no Oppenheim sign. The paradoxic reflex was present on the right side in the most conspicuous manner; it could be elicited, with the greatest facility, during the entire fifteen days before the operation. The scalp presented the above-mentioned elevation over a small area at the uppermost portion of the left fronto-parietal region. The thickness of the lacerated surface prevented an exact determination of the condition of the underlying bony tissue; pressure provoked pain, however.

Treatment.—After the patient was placed in the Northwestern General Hospital his mental condition began to improve and the aphasia gradually disappeared. Both the paradoxic reflex and the slightly increased knee-jerk persisted with the greatest obstinacy and at no time could either Babinski or Oppenheim sign be elicited. The condition, in my opinion, therefore, indicated an involvement of the left motor area, probably only an irritation, but not a distinct lesion, in view of the absence of Babinski's sign. I advised an operation over the injured region of the scalp. Before operating an *x*-ray picture was taken, and a distinct involvement of the bony tissue was detected on the skiagraph. Dr. J. Thompson Schell performed an osteoplastic operation. The upper half of the Rolandic area, including the lacerated region, was exposed. A small fragment of the inner table of the skull was found imbedded in the dura, producing a subdural hemorrhage lying over the

2. Jour. Nerv. and Mental Dis., July, 1907.
3. Rev. Neurol., No. 22, 1906; and Am. Jour. Med. Sci., August, 1907

uppermost portion of the left motor area. The outer surface of the skull was intact. The opening of the lacerated dura was enlarged, the coagulated blood removed and the cortex exposed. The latter's surface was found intact; no laceration could be seen.

Result.—The patient gradually improved and finally recovered. The mental hebetude completely disappeared. During the first two days the knee-jerk remained slightly exaggerated, but on the fourth day became normal. On the sixth day, the paradoxic reflex became fainter and on the twelfth day after the operation it could no more be elicited. It was interesting to observe its gradual diminution and disappearance and it was also interesting to notice its conspicuous presence on the morning before the operation and its gradual obliteration after the operation. The patient was subsequently seen by me several times during a period of two months and at no time could I detect the presence of an abnormal knee-jerk or of the paradoxic reflex.

This case, I believe, is the most striking illustration of my contention concerning the practical value of the reflex. Added to the first two cases published in 1906 and 1907,[3] it furnishes decisive anatomic proofs for the *a priori* deductions made from clinical observations. The reflex has its diagnostic value and deserves a place in nosology of the nervous system.

In conclusion, I may mention that a systematic investigation was made by me in 800 individuals free from diseases of the nervous system, also in 250 cases of functional nervous diseases and at no time was extension of the toes elicited by the method employed by me for the detection of the paradoxic reflex.

1430 Pine Street.

THE AUTOLYSIS OF THE CRYSTALLINE LENS

A PRELIMINARY REPORT

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In the study of traumatic cataract and the needling operation, I was struck with the very scant description of the manner in which the lens becomes opaque and the causes for its opacity and final absorption.

Parsons[1] states that after exposure of the lens fibers to the action of the aqueous they swell up, become opaque, protrude through the capsular wound, and finally break up in the usual manner, absorption being largely due to the leukocytes, which become swollen and filled with granules.

Schlösser[2] (1887) in an article on traumatic cataract, and Schirmer[3] (1889) have studied the microscopic changes very thoroughly, but without throwing much light on the cause of these changes.

Fuchs[4] states that the fibers swell up and become opaque through absorption of water; some are broken off and drop into the anterior chamber and are absorbed. But he also says that concussion without rupture of the capsule may cause the development of complete opacity of the lens. He, however, fails to state just why this occurs.

De Schweinitz[5] says that the opacity and liquefaction are explained by the action of the sodium chlorid of the aqueous on the globulin of the lens substance, as globulin is normally soluble in weak sodium chlorid solution. This theory was, I think, first suggested by Marcus Gunn in 1899 in the *Ophthalmic Review*.

In further search of the literature on the subject I have found no elaboration.

In order to understand the subject it is necessary to have a knowledge of the chemistry of both the aqueous and the crystalline lens.

Halliburton gives the composition of calves' aqueous as in Table 1.

TABLE 1.—COMPOSITION OF THE AQUEOUS

Water		986.87
Solids		13.13
Albumin	1.12	
Extractives	4.21	
Inorganic salts	7.70	
Sodium chlorid	6.89	

Thus it will be seen that it consists practically of normal saline solution with a trace of albumin and extractives.

The composition of the lens as given by Neumeister is set forth in Table 2.

TABLE 2.—COMPOSITION OF THE LENS

			Per cent.
Water			63.50
Solids			36.50
Albumins		35.00	
Insoluble albuminoids	17.00		
Crystalline (b)	11.00		
Crystalline (a)	6.80		
Albumin	0.20		
Fats		.29	
Lecithin		.23	
Cholesterin		.22	
Salts		.80	

It will be seen that the lens contains 35 per cent. of protein, the highest protein percentage of any tissue of the body. Of this 35 per cent. protein, 17 per cent. is in the form of an insoluble albuminoid which is insoluble in normal saline or water.

It is a true albumin and constitutes most of the lens fibers, its amount increasing from without inward in accordance with the increasing age of the lens fibers. The remaining protein consists of a small amount of serum albumin and two vitellins which are soluble in dilute saline or in water.

If these analyses are correct, we have great difficulties in explaining the foregoing theories.

I can hardly agree with Parsons' statement that most of these fibers are carried off by the leukocytes. In the first place, if there is no infection there should not be many polymorphonuclear leukocytes about, as they occur chiefly in inflammatory troubles; and secondly, it would not explain the traumatic cataract with absorption in those cases of concussion without rupture of the capsule.

Fuchs seems to keep on the safe side by simply stating that the fibers become opaque and are finally absorbed, and by giving no explanation for the cause of the concussion cataract.

De Schweinitz's promulgation of Marcus Gunn's suggestion is, if the chemistry be correct, entirely untenable. To be sure the (a) and (b) crystalline bodies would be dissolved out either by water or the aqueous, but the insoluble albuminoid which makes up the greater portion of the protein, and which occurs chiefly in the lens fibers, is insoluble in either the water or the saline.

It is easily seen from a study of the chemistry of the lens why it becomes opaque either after injury with the entrance of aqueous or even from concussion. In case of rupture of the capsule and entrance of the aqueous there would occur an immediate precipitation of this insoluble albuminoid, while the remaining portions

1. Parsons: The Pathology of the Eye, 1904.
2. Schlösser: Experimental Studies on Traumatic Cataract, 1887.
3. Schirmer: Arch. f. Ophth., 1889.
4. Fuchs: Text-Book of Ophthalmology, 1908.
5. De Schweinitz: Diseases of the Eye, 1910.

would be soluble and could be carried off by the circulation of the aqueous. In cases of concussion without rupture of the capsule, there undoubtedly occurs some rupture of the lens fibers, and then this insoluble albuminoid is brought into contact with the lens lymph which acts in the same manner as the aqueous in precipitating the albuminoid.

But what is the factor which causes the solution of this albuminoid so that it can pass off in the circulation?

As we have known for several years that most of the organs and tissues of the body show autolytic activity under favorable conditions, we believe that this autolytic action also takes place in the lens substance after the rupture and breaking up of the lens fibers. There is also quite a possibility that there is some ferment in the aqueous which hastens this action. It is more probable, however, that the aqueous serves its chief purpose in carrying off the liquefied lens substance. Therefore, in order either to prove or to disprove our theories, the following experiments were carried out, using calves' eyes as the working material. They were enucleated at the abattoir and transported immediately to the laboratory and kept on ice until used, which was always within six hours after enucleation.

Nov. 1, 1909, I received thirty calves' eyes and drew off the aqueous with a sterile hypodermic needle. The lenses were removed and macerated, then diluted with normal saline solution, so as to make a dilute solution of lens albumin of about 1 per cent. This was agitated so as to make as nearly a homogeneous suspension of the insoluble portions as possible, and 5 c.c. were measured into three test-tubes. To the first were added 5 c.c. of the aqueous solution. To the second were added 5 c.c. of the boiled aqueous. To the third were added 5 c.c. of normal saline solution. These were stoppered tightly and placed in an incubator at 36 C. and allowed to remain for twenty-two days.

Chloroform and toluol were added to prevent bacterial action. They were then removed and the amount of soluble nitrogen was determined in each tube. They were precipitated by the action of heat and acetic acid, filtered and washed, and the amount of nitrogen determined in the filtrate by Kjeldahl's method, which consists of digesting with concentrated sulphuric acid and copper sulphate and distilling the remains, after rendering strongly alkaline, into a measured amount of tenth-normal sulphuric acid and titrating the excess of the acid.

By this procedure I obtained the results shown in Table 3.

TABLE 3

No. 1.—5 c.c. lens albumin
5 c.c. aqueous
= 2.1675 c.c. N/10 H_2SO_4

No. 2.—5 c.c. lens albumin
5 c.c. boiled aqueous
= 1.9675 c.c. N/10 H_2SO_4

No. 3.—5 c.c. lens albumin
5 c.c. normal salt
= 0.8175 c.c. N/10 H_2SO_4

By this experiment it appears that the boiling of the aqueous has some inhibitory effect on its action on the lens albumin. It also appears that the aqueous either increases this process, or at least hastens it, because as will be seen, there is over twice as much soluble nitrogen in No. 1, which was combined with the unboiled aqueous, as in No. 3, in which there was only salt solution.

On account of lack of aqueous these experiments were not done with a control, so that the results are open to more criticism than they would otherwise be. All other experiments along similar lines with equal quantities of lens and aqueous were spoiled so that I lack confirmatory evidence, which I hope I shall be able to supply shortly.

Nov. 8, 1909, I started another series in the following manner:

Twenty calves' lenses were macerated with the accompanying aqueous, 15 c.c., and the whole made up to 500 c.c. with normal salt solution. Chloroform and toluol were added to prevent bacterial changes.

The preparation was then placed in a tightly stoppered flask and set in an incubator at 36 C., a measured amount being removed from time to time and the soluble nitrogen being determined by precipitating with heat and acetic acid and doing the Kjeldahl test on the filtrates as in the preceding experiment, with results given in Table 4.

TABLE 4.—VARIATIONS IN SOLUBLE NITROGEN AS DETERMINED BY HEAT AND ACETIC ACID

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/ 8/09	4.8000
11/16/09	2.6750
11/23/09	3.5875
11/30/09	4.3375
12/ 7/09	3.9625
12/15/09	3.8375
1/ 5/10	4.0875
2/17/10	5.9625
3/17/10	5.8375
5/23/10	8.1175
10/25/10	8.9125

The autolytic material was now set at room temperature until October 25.

As will be seen by a glance at these figures there was a considerable lessening of the soluble nitrogen immediately after starting the process, after which, with practically one exception, a gradual rise until the quantity was nearly twice that of the original amount.

This initial decrease could be explained by the possibility of a reversible action of the ferment and a building up instead of a tearing down, as is seen in some other instances in physiologic chemistry, notably some of the fat ferments.

The influence of the small amount of aqueous in this experiment was, I believe, almost *nil*, as I will show in the following experiment a similar picture without the presence of any aqueous.

Nov. 18, 1909, twenty calves' lenses were macerated and made up to 500 c.c. with normal saline solution. Chloroform and toluol were added and placed in an incubator at 36 C., being placed in a tightly stoppered flask to prevent evaporation; 20 c.c. was removed from time to time and the precipitable protein removed by Abeles' method, which is as follows:

Fifty c.c. of absolute alcohol, 2.5 gm. zinc acetate, and 50 c.c. of the fluid are mixed and allowed to stand ten minutes and then filtered through a filter moistened with alcohol; the residue is rubbed up in a mortar several times and filtered; the zinc is precipitated with 20 per cent. sodium carbonate solution; this is filtered, acidulated with acetic acid, evaporated and a Kjeldahl test done on the filtrate.

This method is claimed to give more accurate results than the heat and acetic acid method. By the use of this method I obtained the following results:

TABLE 5.—VARIATIONS IN SOLUBLE NITROGEN BY ABELES' METHOD

Date	N/10 H_2SO_4, c.c. Required by Soluble Nitrogen in 100 c.c.
11/18/09	1.8375
11/22/09	2.5875
11/29/09	2.4625
12/ 6/09	2.5875
12/14/09	2.3275
1/ 3/10	2.4625
2/14/10	3.4625
3/17/10	4.4625
5/23/10	7.3675
10/20/10	7.3675

Set at room temperature until October 20.

In this and the preceding series, double estimations were made and when there was a variation the average of the results were taken.

It will be seen, as in the preceding experiment, that there was very little change for the first three months

and then there was such a pronounced change that one could hardly believe it to be accidental.

Here, as in the preceding series, there was little or no action while the material was at room temperature, from May to October, 1910.

Whether this was due to the slightly lowered temperature I cannot say. Neither can I say whether the increase in soluble nitrogen would have continued, as I had insufficient material to continue the experiment.

The tryptophan reaction was negative in both of these last experiments, on Dec. 11, 1910, showing that there was no very active ferment at work which would split up the amido-acids. Both preparations were tested for bacterial growth Dec. 12, 1910, by inoculating slant agar, with negative results.

If further investigation confirms my preliminary findings, then I think that it is safe to say that when the lens fibers are broken up they undergo autolytic changes. Whether this is increased by the action of some specific enzyme in the aqueous or whether it is due entirely to autolysis, it is difficult to say. If this be a ferment, then what is its source? Is it produced through the breaking up of the lens fibers, or is it derived from the circulating lymph? These questions I cannot answer.

These results coincide nicely with the facts as we know them. The lens of the young is much more easily liquefied and carried off, from the fact that there is less of the insoluble albuminoid present and the enzymes are all very active. In the aged, on the contrary, there is a much larger amount of the insoluble portion and all of the enzymes are relatively weak.

In closing I wish to thank Dr. E. L. Whitney for his many kind suggestions, and for the use of his private laboratory and apparatus at the Baltimore Medical College.

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TESTS OF THE VIRULENCE OF DIPHTHERIA BACILLI *

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Many times the laboratory worker is requested to test the virulence of diphtheria bacilli, especially in cases running for a long time, or in those occurring in institutions, and as we have had many interesting results from these tests we present some of them for consideration.

Our laboratory has always made virulence tests, on request either from the Board of Health or from the attending physician, the procedure being to isolate either by the streak-out method or surface seeding. For the former a series of eight or ten tubes is used, a fresh tube being inoculated from the incubated one; then, after sterilizing the needle, another from the freshly inoculated one, and so on through the series, taking from the first tube to the second, from the second to the third, etc., sterilizing the needle after inoculating each tube. In that way isolated colonies may be found on the later ones, as of course a smaller number of organisms is carried over each time. For the surface-seeding method five tubes are used, those being selected which contain a fair amount of water of condensation. This is rubbed over the surface in order to insure an even distribution at the proper time. Inoculation is made directly into the water of condensation of the first tube, the needle is sterilized, and a loopful is carried into the water in the second tube; sterilization and inoculation being repeated throughout the series. The tubes are then laid down at the proper angle to cause the water to flow over the surface of the serum and allowed to remain for from two to five minutes, when they are taken up carefully and put into the incubator in the upright position. After incubation isolated colonies are "fished" and planted on serum and in sugar-free broth, and a microscopic examination is also made.

If there is no particular need for haste, or, in cases in which the organisms are very few, we sometimes make serum and microscopic examinations only, inoculating several colonies one above the other on a single serum tube, thereby making a great saving in the amount of media used; for many times we "fish" from twenty to forty colonies from a single series, especially from long-standing cases, the broths being made from the serum tubes after incubation.

These are incubated for forty-eight hours and pigs inoculated subcutaneously, using 0.5 per cent. of the body weight. The reaction may be local or general, or, as is usual in positive cases, both, and is generally present the following day, although a negative report is never given until forty-eight hours after the inoculation.

The virulence of morphologically typical diphtheria bacilli (Wesbrook's A C D) varies, not only in different cases but in different strains from the same case, from those absolutely non-virulent to those which cause death within thirty-six hours.

This was first brought to our notice in December, 1906, when a series of six pigs was inoculated, each with a different strain isolated from the same release culture.

In order to hasten the report one strain was inoculated at the end of the twenty-four hours and this proved virulent, the pig being so nearly dead on the second day that it was chloroformed.

The other five strains were all incubated for forty-eight hours and the difference in their virulence was very marked:

1. This was the pig previously mentioned.
2. This pig died on the eighth day, the reaction being local and general.
3. This pig died on the second day.
4. This pig showed a very slight local reaction on the second day, which increased slightly during the next week, but at no time was there a marked reaction. This pig was kept under observation for six weeks, complete recovery resulting.
5. This pig died on the ninth day.
6. In this instance there was a slight local reaction at the end of twenty-four hours which became more marked daily for some time and there was a slough surrounding the point of inoculation, the pig dying at the end of six weeks.

All of the above strains, grown fifteen hours on serum, were of Wesbrook's A A1 types. A rush of work prevented further tests at this time but an interesting problem had been presented.

Nov. 9, 1907, three pigs were inoculated with three strains isolated from a release culture, two dying within forty-eight hours and the other showing no symptoms; in order to rule out a possible difference in the resistance of the pigs we kept the cultures and eleven days later inoculated the surviving pig, and a new one to serve as a control, with the avirulent strain and at the

* Read before the Society of American Bacteriologists, at Ithaca, N. Y., Dec. 28-30, 1910.

XUM

same time another pig with one of the virulent strains; the first two showed a very slight local reaction the following day and the one receiving the virulent strain showed a marked reaction but lived three weeks from the date of inoculation, dying at that time. On the twenty-second, or two days after the last inoculation, the two pigs receiving the avirulent strain were reinoculated—the original pig with the virulent strain and the control with the avirulent; the original pig developed marked local and general symptoms, dying on the eleventh day from the last inoculation, and the control never showed anything beyond a slight local reaction, from which a complete recovery was made within a few days.

Since this time we have endeavored to make inoculations from several strains from each case, although until recently we have not had a similar case. Aug. 14, 1910, three pigs were inoculated with three strains isolated from a release culture, one of which was virulent and two avirulent.

On several occasions we have been requested to make retests on cases running a protracted course, but it has been our experience that when it has been demonstrated that a virulent organism has caused the condition the virulence remains to the last, and two cases are presented:

CASE 1.—Duration from first positive culture to release by two successive negatives, seventy-six days. December 29, 1906, two pigs were inoculated, one dying on the second and one on the third day; December 30, one pig, which died on the second day. Jan. 17, 1907 (this was the last positive culture), two pigs were inoculated, both dying three days later.

CASE 2.—Culture was first taken Jan. 10, 1910, and a positive diagnosis returned; all symptoms disappeared within ten days, but the case ran until March 30, when the patient was allowed by the board to go into the country. Virulence tests, made January 28, February 13, and March 26, were all positive.

In general we have found the organisms persisting after a clinical case of diphtheria virulent, but the non-clinical carriers usually harbor non-virulent organisms, an example of this being presented before this society last year.[1] One of the conclusions drawn from that work was as follows: "Where virulent diphtheria bacilli are present, as shown by outbreaks of the disease, cultural tests of all contacts, and isolation of those showing positive cultures, is a duty owed to the community."

An illustration of the truth of this conclusion was demonstrated recently in an institution in which there are about 150 boys. Oct. 8, 1910, the first positive case was reported; another on the sixteenth, one on the twentieth, one November 3 and five on the fourth. This opened the eyes of those in charge and on November 6 seventy cultures were taken from the two cottages in which cases had occurred, fourteen of which were positive; on the eighth 136 cultures were submitted, of which six were positive. The clinical cases had been removed before the general culture taking began, so the last twenty positives were non-clinical cases; but of six cases on which virulence tests were made three were positive, from four to six strains being tried from all cases as follows:

Boy 1.—Six strains inoculated November 14, all positive, the pigs dying within forty-eight hours.

Boy 2.—Seven strains inoculated November 14, all positive, two pigs dying on the second day, two on the third, and three on the fourth.

Boy 3.—Seven strains inoculated November 16, all positive, two pigs dying on the second, four on the third, and one on the fifth day.

Boy 4.—Five strains inoculated November 16, and one December 11 from another culture; all negative.

Boy 5.—Three strains inoculated November 21 and two December 11; all negative.

Boy 6.—Four strains inoculated November 21, all negative; one strain December 1, the pig dying on the second day; two strains December 5 and ten strains December 12, being negative.

It occurred to us that possibly there might be a cause for the variation in virulence in the source of the primary infection. Accordingly the school hospital was consulted and we found that the first four boys, or three with virulent and one with avirulent organisms, came from the same cottage and the remaining two came from two other cottages where there had been no clinical diphtheria. Thus it will be seen that all the boys who were harboring virulent organisms came from a single cottage, and from this cottage most of the clinical cases had been taken, and that also a carrier of non-virulent organisms came from the same cottage. Boy 1, three days after the culture taking, became a clinical case and was sent to the contagious hospital, the others being isolated on the institution grounds.

It is interesting to note that those cases which showed a positive virulence at all times cleared up more quickly than the others. The last positive cultures from Boys 2 and 3 were taken twenty-one and twenty days, respectively, after the primary one, the others still being positive three weeks later.

While working on these institutional cases we had a few positive cases from another institution where they had a single clinical case, and the virulence was tested on two of them, one being the clinical case, and the other, one of the exposed children. From the clinical case five strains were inoculated, four of them being positive and one negative; of the positive pigs three died on the second and one on the third day; from the other case all three were positive, the pigs dying within forty-eight hours.

One other case occurred at the same time. A boy at home had clinical diphtheria and both his mother and brother had positive cultures. The mother's throat cleared within six days but the brother's persisted. A virulence test was made from the primary culture of the brother, who was never a clinical case, two strains being tested, one killing the pig on the third day, the other being non-virulent.

CONCLUSIONS

1. Clinical diphtheria is caused by virulent diphtheria bacilli.

2. As a rule, following clinical diphtheria, the organisms retain their virulence as long as they persist.

3. As a rule, virulent and avirulent bacilli are not found in the same case, but, as these cases do occur, several strains should be tested before they are reported non-virulent.

4. In diphtheria outbreaks a large percentage of the "carriers" harbor virulent organisms, although such carriers may develop no symptoms whatever.

5. Cultures should be taken from all contacts before terminating quarantine in all cases of diphtheria.

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1. Slack, Arms, Wade and Blanchard: Diphtheria Bacillus-Carriers in the Public Schools, THE JOURNAL A. M. A., March 19, 1910, p. 951.

TREATMENT OF SINUS AND MIDDLE-EAR DISEASE WITH THE VACUUM-PUMP

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Careful study of the nose impresses one with the fact that the sinuses play a greater part in its troubles than we have ever imagined.

Many headaches which oculists formerly ascribed to eyestrain are now found to be caused by sinus trouble. As a rule, sinus headaches are easily diagnosed, as they are intensified by lowering the head, but frequently there are obscure cases in which diagnosis is difficult; it is well, therefore, in patients complaining of continuous or interrupted pain in the head, not increased by eye work, to make a thorough examination of the sinuses. Frequently the most painstaking examination fails to reveal pus at the natural openings of the sinuses. If the ostia are not patulous and the confined pus or secretion lacks the pressure necessary to force its way out, the physician is apt to miss the diagnosis of sinusitis and to ascribe the headache to some other cause. It is in such cases, that application of the vacuum-pump for a few minutes demonstrates the sinusitis by relieving the headaches. This is particularly true in acute cases, especially before they become purulent, and in my opinion the vacuum-pump should be used as a regular routine measure for diagnostic purposes in patients with these vague head symptoms.

In middle-ear diseases in which there is a patulous tube, the vacuum-pump is of inestimable value, as the secretions of the middle ear, antrum and even of the mastoid, if there are patulous openings, are easily drawn into the throat, the natural drainage spot. With suppurating otitis media with perforation the condition of the tube may be ascertained by inflation.

A suction-pump should never be applied to the external meatus, because while by this means the secretions are drawn from the middle ear and its adjacent cavities, one is also apt to draw germs and secretion from around the pharyngeal opening of the Eustachian tube up into the middle ear, and it is possible to reinfect or doubly infect that cavity. By covering a small cork with a piece of soft tubing and plugging the external meatus, after all available secretions have been swabbed out, and then applying the vacuum-pump to the nose the secretions are sucked out by the way that Nature intended they should go.

While we cannot tell positively the function of the different sinuses, we know that they must be well ventilated, and that the hypermoistened air and what little secretion is present are drained into the nose and pharynx by the vacuum pressure caused by the air as it rushes to and fro in the nasopharyngeal passage. In using the vacuum-pump we are simply magnifying Nature's method of emptying these spaces, and by this increase in power we are able to overcome partial stenosis of the ducts and openings leading from these sinuses to the upper air tract.

The first principle of good surgery is to drain if pus be present; and by use of the vacuum-pump, we are applying to these chambers this great principle. Relieving Nature of this extra work is frequently the turning-point in a cure.

Surgery should not be abandoned. Every nose should be made as nearly normal as possible so that there will be proper ventilation of the nasal chamber. All pressure should be removed from the openings of the sinuses; then with the vacuum treatment the radical operation can frequently be avoided. Unless there are urgent symptoms, such as pain and necrosis, months instead of weeks, as recommended by Ballenger, should be devoted to this line of treatment, for all operators know that the radical operation is not followed by prompt recovery, and that frequently months of post-operative treatment are necessary. Whether the patient should have a radical operation or not must be decided by the physician. Knowing that pus under pressure is very virulent and destructive to tissue, we should at once relieve these cavities when they contain pent-up secretions, and this the vacuum-pump enables us to do.

By using the vacuum-pump we do not leave solutions in a sinus, nor do we infect cavities, as we are apt to do in the washing-out treatment.

Very little has been written on this subject and Ballenger's is the only book I have seen that mentions the vacuum method. The technic of using the pump is very simple. The patient's nasal cavity is thoroughly cleaned, and then sprayed with a 2 per cent. cocain solution to contract the tissues and render the sinus openings more patulous. After the pump is attached to the water faucet, the patient is instructed to close one nostril and insert the nasal tip in the other; by swallowing, the soft palate is then raised and closes off the nasopharyngeal space, while the suction of the pump holds the velum tightly in place. As soon as the patient feels the suction he should open his mouth, allowing the tongue to lie perfectly relaxed and breathing through the mouth.

In my experimental work along this line, I find that ten minutes of actual suction is sufficient to empty the sinuses and to give their membranes a stimulating hyperemia.

When the discharge is very profuse, I give the treatment twice a day, and if necessary, I give the instrument to the patient for home treatment.

A report of a few cases may be of interest:

CASE 1.—Mr. S., aged 42, had chronic frontal sinus trouble for some years. When first seen some years ago, a deviating septum was operated on, and the anterior third of both middle turbinates removed, thus curing the right sinus by establishing good drainage. The left sinus still discharges, as the patient will come to the office only when in pain, caused by the retained secretion during nasal congestion. A treatment by the vacuum-pump relieves the symptoms for weeks. This is one of the many cases every physician has in which the patient is too busy to be cured.

CASE 2.—Miss B., aged 18, had had headache for three days, which was worse when the head was lowered. The nasal mucous membrane was congested; there was very little secretion. After five minutes' application of the pump the pain was entirely relieved. Treatments were given for three consecutive days; there was no pain or discomfort after the first treatment.

CASE 3.—Mrs. S., aged 45, had had intense frontal headache for six weeks; it was slightly worse on the left side. Glasses were fitted by two different physicians but with no relief of pain. Pain was continuous night and day; at times it was so great that the patient threatened to end her life if not relieved. The pain was exaggerated on leaning forward, and by jars. There was no discharge from nose or throat. The nasal examination showed no hypertrophies and the only discharge found was a very small drop of pus at the nasal opening at the left posterior ethmoid sinus. The vacuum-pump relieved the pain in two minutes, when a mucopurulent mass was blown from the left nostril; after the ten minutes' treatment there was absolutely no pain; a slight sense of fulness returned the next day but without pain. The patient was not seen for twelve days; there was no further complaint.

CASE 4.—Miss H., aged 16, a schoolgirl, came to be examined for glasses as her head had been aching for a week. Sinusitis was diagnosed; three treatments with vacuum pump effected a cure.

CASE 5.—Mr. H., aged 40, electrician, had previously been fitted with glasses. He has an extreme deviation of the septum to the left completely blocking the left nostril, and during the past year he twice set date for submucous operation. He complained of photophobia and pain in and over the left eye, radiating to the occiput. The pupil was contracted; there was no nasal discharge, and headache was not particularly increased by leaning forward. The pain was severe enough to awaken the patient. The pupil was dilated and he was sent home. On the following day there was no relief of symptoms, but the patient was relieved at once by application of the vacuum-pump, and there was no return of symptoms after the fourth treatment. The pump certainly corrected this diagnosis and as I look back I can recall many cases that would have been cleared up by this little instrument.

CASE 6.—Miss H., aged 25, has had progressive deafness with tinnitis and fulness of the ears for two years. There was partial stenosis of the nasal passage, which was relieved by operative means, and then inflations employed with benefit up to a certain point. After inflation, the patient would soon complain of stuffiness and noise. The vacuum-pump has started this patient on the road to recovery, as the serous secretion is now sucked from the middle ear; the sense of stuffiness and noise rarely returns and the hearing is now steadily improving, while before it was at a standstill.

There are great possibilities in these cases in which there is hypersecretion of the middle-ear and its accessory cavities. Many physicians are undoubtedly using the vacuum-pump, but in my clinical wandering I have not come across them. Future reports along these lines will be interesting.

A CASE OF PRIMITIVE OBSTETRICS

L. WEINSTOCK, M.D.
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History.—On Jan. 1, 1911, at 1:30 p. m., I was called to a negress, iii-para, age 22, unmarried, a domestic in a boarding house who had given birth to a boy at 3:30 a. m. of the same day under the following circumstances: Thinking herself pregnant for but seven months, she had made no arrangements for the birth of this child, as she had had twins about a year and a half ago, both children dying soon after birth. On Dec. 31, 1910, at 11 p. m., while alone in the house, she experienced a sudden pain in the abdomen which made her "double up." It soon passed off, and she thought it was simply cramp. In a short time pains began again, and she suspected that they were labor pains. After four and a half hours a boy was born. She waited till the placenta was born, and with scissors cut the cord about six inches from the umbilicus, and did *not* tie the cord which was still attached to the child. Washing herself as well as she could, and wrapping the child up in a blanket, she went to sleep. Next morning at 6:30 a. m. she rose, dressed, prepared breakfast for the family, did her other work, and then told her mistress what had happened early in the morning. She then wrapped all her bloody linen around the placenta, placed the bundle in a suit case, wrapped the child in some blankets, and went home on foot, a distance of six squares. Reaching home, which by the way was the home of the father, she went to bed and called me.

Examination.—I found the patient to be a fairly well-developed young woman, of apparent good health. Temperature was 98.6 F., pulse 65, respiration 18. Vaginal examination showed a slight median tear of the perineum, but the uterus was in normal condition following delivery. She was given a uterine douche. The child was fully developed, about 8 pounds in weight, and showed no marks or deformities. After giving the child a bath, I tied the cord about one and a half inches from the umbilicus, and cut off the rest. This procedure was, I think, not absolutely necessary, as the cord was absolutely bloodless, but was done for sake of precaution.

Subsequent History.—The mother never had a temperature above 98.8 F., or a pulse rate above 70 during her six days in bed. She got out of the bed on Jan. 6, 1911, and went back to her position. The child is doing well, and seems in no way concerned as to the attention he received when he entered this world.

The long time the child was attached to the placenta, a period, so far as the mother can guess, of ten minutes, probably saved it from hemorrhage. This case seems to emphasize the point that in a normal case the less the attending physician does the better it will be for the mother.

44 West Chelten Avenue.

A METHOD OF STAINING GRANULAR CASTS AND OTHER TUBE PRODUCTS

H. B. ERDMAN, M.D.
WERNERSVILLE, PA.

Since it is often desirable to stain and mount tube-casts for preservation, the following method is suggested as being simple and easily carried out, and at the same time showing distinctly many features difficult to recognize in the unstained specimen:

Sediment the fresh urine in a centrifuge; pour off the supernatant urine, and fill the tube with 0.4 per cent. sodium chlorid solution. Gently shake the deposit, centrifuge, pour off the solution, and repeat the washing, this time centrifuging till the sediment forms a dense clump at the bottom of the tube.

Slowly pour off the solution, invert the tube and allow it to drain for a few moments; the sediment will remain in the point of the tube.

With a long pipette transfer a small drop of sediment to a cover-glass, gently spread with a fine platinum wire loop, and dry in air. The spread must be thin.

Treat for three minutes with a 5 per cent. aqueous solution of mercuric chlorid. Wash thoroughly in water.

Stain for five minutes with a fresh mixture of equal parts of the following solutions: methylene blue, 0.3 per cent. aqueous solution; fuchsin, 0.02 per cent. aqueous solution; wash in water, dry, and mount in balsam.

To demonstrate fat, stain the fixed spread for five minutes with a solution of Sudan III in 70 per cent. alcohol. Wash in water, and apply the double stain as before. Mount in glycerin or glycerin jelly.

Mucin and chromatin stain violet to indigo, granular casts and protoplasm stain from pink to dark red, waxy casts stain bright red and fat globules bright orange.

One washing may suffice when the urine contains a very small amount of sediment. The stains may be used singly, first staining with fuchsin, washing in water and counter-staining with methylene blue.

Leukocytes and epithelial cells stain distinctly, the protoplasm of renal epithelium usually taking a dark red color, that of squamous epithelium a light pink. Red blood-cells may show a pale salmon color. Mucinous products are distinguished chiefly as filaments, agglutinations, showing their structure by longitudinal or spiral striations, and homogeneous casts. These forms merge into each other, there are no sharp dividing lines. They are probably not of much significance when not accompanied by granular casts.

Granular casts stain red and are thus more easily found than in the unstained sediment. Homogeneous casts staining red may be found in connection with granular casts. They are frequently of high density and refraction, assuming a waxy character. Epithelial cells may be embedded in mucinous, granular or waxy material.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

COMPRESSED OXYGEN: Oxygenium compressum.—Compressed oxygen is gaseous oxygen, O_2, in a compressed state.

Compressed oxygen is a colorless, odorless and tasteless gas, slightly soluble in water and neutral to ordinary indicators. The gas is not inflammable but supports combustion much more vigorously than does air. Ignited carbon, sulphur, phosphorus and heated iron burn with an intense light in the gas. It colors colorless reduced indigo—carmine blue.

Compressed oxygen should be neutral toward litmus and when passed through an aqueous solution of silver nitrate no turbidity should be produced.

No color should be produced when 4 liters of the gas are passed through water containing potassium iodide and starch solution.

Not more than an opalescence should be produced when 4 liters of the gas are passed through an aqueous solution of barium hydroxide.

When 4 liters of the gas are passed through an aqueous solution of sodium hydroxide, then over heated platinum, and finally through an aqueous solution of barium hydroxide, no turbidity should be produced in the latter. When shaken in a gas burette with an alkaline solution of pyrogallol at least 94 per cent. of the gas should be absorbed.

Actions and Uses.—Compressed oxygen is administered for the purpose of relieving difficult respiration in cases of mechanical hindrance to the ingress of air to the lungs.

Dosage.—It is inhaled from a mouth piece attached to the cylinder.

TUBERCULIN PREPARATIONS (SEE N. N. R. (1911), P. 196)

Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Triturated Tubercle Bacilli.—Used for the preparation of an agglutinating liquid for the detection of agglutinins in the blood serum of tuberculous patients. The bacilli are rubbed in a mortar with 0.8 per cent. sodium chloride solution containing 0.5 per cent. phenol and centrifugalized for a short time; the preparation is to be diluted 1 to 10,000 before using. Marketed in bottles containing 0.1 Gm. triturated tubercle bacilli.

Spinal Anesthesia and Shock.—The principal agencies in the production of surgical shock and collapse are those which make a sudden and deep impression on the central nervous system or the large sympathetic ganglia through the medium of the sensory nerves. Experimental researches have shown that if we block the passage of such impulses by means of a local anesthetic drug injected into the large nerve trunks leading from the part, or into the dural sac, we safeguard the patient against shock. Spinal anesthesia, therefore, prevents shock by blocking off the centripetal impulses passing to the nervous centers. To obtain a perfect result by this method it is essential to produce a complete block, otherwise shock to a greater or lesser degree will result.—E. C. Ryall, in the *Practitioner.*

Therapeutics

ASCARIS LUMBRICOIDES

ROUND WORM

Many years ago it was a common belief among members of the medical profession that large numbers of children suffered from worms. More recently, the presence of these parasites as the cause of unpleasant symptoms has been in a measure neglected by the profession. While mothers, nurses and friends have been quick to suggest worms as the cause of noticeable symptoms, physicians have ridiculed the idea with the result that many a physician has been humiliated by having exhibited to him a worm, which had been passed by a child, after he had expressed the opinion that there were no worms. The fact is that worms are sufficiently prevalent among children for the physician to bear in mind the possibility of obscure symptoms being due to this cause.

In the case of the *Oxyuris vermicularis*, or thread worm, the presence of itching about the anus is so common and so conspicuous a symptom that there is little excuse for overlooking the presence of the parasite, but with the *Ascaris lumbricoides*, or round worm, the case is different. One or more of these worms may be present in the intestine without giving rise to any symptom of sufficient importance to attract the attention of either the parent or the physician. This renders it all the more important that the physician should be on the lookout and consider the possibility of the presence of this parasite in any child, who for a considerable period suffers from indefinite symptoms for which no clear explanation can be found.

The round worm is considered by some to be the most common of the intestinal parasites found in the human subject, although others believe that the pin worm is more common. The round worm is of a reddish or brownish color, about ¼ inch in diameter, the size of a goose quill. The male varies in length from 4 to 8 inches, the female from 6 to 12 inches. The male is the more curved, and the female the straighter. It has been estimated that the genital tubes of a large, mature female may contain 60,000,000 eggs. The eggs after having been passed from the intestine are exceedingly tenacious of vitality, which may be retained even for two or three years. These worms live, also, in the intestinal canal of cattle and hogs, and the eggs may be conveyed with the excrement of these animals to fields where vegetables are cultivated, and either on such vegetables, which are not carefully cleaned, or in water which is consumed in the fields or at the table, the ova may be taken into the stomach of the human subject.

The eggs are destroyed by boiling, and may be removed by filtration, so that people who use distilled or filtered water need have little fear of becoming infected with the round worm. After having been taken into the stomach, in the course of one, two, or three weeks, the worm is hatched out and then continues to live, ordinarily, in the upper part of the small intestine. From this, its usual habitat, it may travel into the stomach, and is sometimes expelled from this organ by vomiting. Sometimes it comes into the throat, from which it may be removed by the fingers. Rarely it enters the larynx, where it may produce asphyxiation; or it may go into the trachea and produce gangrene of the lungs. Sometimes it enters the nose, and in rare instances has passed

through the Eustachian tube into the middle ear. From the intestine it may also enter the bile ducts. The intestine may contain a single worm, but generally there are several, perhaps six or eight, and over a hundred have been found. When there are very many, they may collect together into a mass, and may cause intestinal obstruction.

As has been stated, worms may be present in the intestine and give rise to no noticeable symptoms. Probably many of the symptoms which have been attributed to worms are not really due to them, but to some other condition.

The symptoms which are due to their presence are: transient pains in the abdomen of varying severity; changes in the appetite, either impairment of appetite or ravenous appetite; occasional attacks of diarrhea, the movements sometimes having a mucous character; sometimes nausea and vomiting; distention of the abdomen; loss of flesh; and itching about the anus and about the nose. Nervous symptoms are frequently attributed to presence of worms in the intestine. These may be restlessness, especially during sleep, irritability, choreic movements and, in rare instances, epileptic convulsions of greater or less severity.

The presence of worms is definitely determined by finding the worm in the feces. This is most likely to be possible after the patient has taken a cathartic. A more certain way of making the diagnosis, but one which, of course, is more troublesome, is to examine microscopically the solid residue obtained by filtering the liquid feces. If worms are present, their eggs will be found in the fecal matter.

Associated with the worm is a peculiar, disagreeable odor, which is characteristic, and which is believed by some to belong to a toxic product produced by the worm, which toxin gives rise to symptoms referable to the nervous system.

Treatment directed toward the removal of the worm should not be commenced until a positive diagnosis has been made. The drugs most frequently used to extirpate this parasite are santonin and spigelium. The one in most common use and most effective is santonin, though it is a drug that may readily cause poisoning and, therefore, should be used with caution, especially in young children.

As is so well understood in the treatment for the extirpation of a tapeworm, the emptier the upper part of the intestine is, the less food or nutriment the worms have had, the better will they partake of the drug that stupefies or kills them. After they are stupefied, ordinary catharsis will eradicate them. The younger the child, naturally the less severe must be the treatment.

Taking a child 5 years old as a type, it should be given a cathartic dose of a laxative at night, such as an aromatic fluidextract of cascara or the aromatic tincture of rhubarb. The next morning the child should receive for breakfast only a cup of weak tea or a cup of clam broth, just so that it will feel it has had something to eat. Then the specific should be used, either santonin or spigelium. If the child is weak, or much younger than 5 years, spigelium should be the drug relied on.

For a child 5 years old:

℞	Gm. or c.c.		
Fluidextracti spigeliæ	50	or	fl. ʒii
Fluidextracti sennæ	25		fl. ʒi

M. et Sig.: One-half a teaspoonful, in water, every hour for three doses.

If it is thought best to use the more powerful drug, santonin, it may be administered as follows:

℞	Gm. or c.c.		
Santonini	0.30	or	gr. v
Hydrargyri chloridi mitis	0.20		gr. iii
Sacchari lactis	3		gr. xlv

M. et fac chartulas 10.

Sig.: A powder, in water, every hour for three doses.

If the above does not move the bowels in four hours after the first dose of the vermifuge, some other cathartic must be given, such as castor oil, or such portion of a seidlitz powder as is advisable for the age of the patient. In an hour after the last dose of either the spigelia or santonin, the little patient may have a good meal. At any time during the treatment if the child seems weak, a little brandy stimulation should be given.

Wormseed oil (*oleum chenopodii*) has long been used to eradicate this worm, and is more or less efficient. The dose is about 5 drops, several times repeated. A cathartic should follow. When this oil is used, it may be given on a lump of sugar or in a teaspoonful of granulated sugar.

Whatever the treatment, it is advisable to repeat it in three days, and again in a week. After the catharsis is complete, in the latter part of the day of treatment, a catheter should be inserted through the rectum, well up through the sigmoid, and a colon wash should be given with a small amount of warm saline solution, stronger with salt than the physiologic saline. This will wash out many of the eggs of the worms that have not been removed by defecation.

While the above treatment seems more or less elaborate and looks almost like a surgical proposition, it is not good sense to dally with a patient who has these worms. They must be eradicated, if possible.

It should not be forgotten that an unhealthy condition of the intestinal tract is usually associated with the presence of the round worm, and a chronic catarrh of the intestine is conducive to their welfare and encourages their growth and persistence. Hence we should always, after the above treatment, carefully regulate the diet and give such medication, bismuth and soda perhaps, or magnesium, as will cause normal movements of the bowels and cure the chronic catarrh of the upper intestine.

SANTONICA, U. S. P.

LEVANT WORMSEED

This is also known as Aleppo, Alexandria or European wormseed. It is a small shrub, about a foot in height (*Artemisia pauciflora*), which grows in Europe and Asia, and the part used is the "dried, unexpanded flower-heads" (U. S. P.). These flower-heads are very small, and are of a pale, greenish-brown color, and have a camphoraceous odor and a bitter taste. They contain from 1 to 2 per cent. of santonin, about 2 per cent. of a volatile oil, artemisin, a resin and a gum.

SANTONIUM, U. S. P.—SANTONIN

Description.—Santonin is a neutral principle obtained from santonica, and is "the inner anhydrid or lactone of santonic acid" (U. S. P.). Santonin undergoes changes if exposed to the light. It occurs in shining, colorless prisms, has no odor, is not readily soluble, but if held long in the mouth gives a bitter taste.

Action.—Santonin is not irritant, very slowly dissolves in the stomach and intestine, and but a small amount, ordinarily, is absorbed. If much is absorbed, it causes

nervous phenomena, one of which is yellow sight, zanthopsia, i. e., objects look yellow. This is a harmless condition, and may last for from several hours to a day. It may be due to an action on the cerebrum or on the retina, as the fluids of the eye are not colored. If a poisonous amount is absorbed, the nervous system is seriously affected and the circulation is depressed. There may be also some kidney irritation. If there is much absorbed, the urine becomes yellow, which in the presence of an alkali is changed to red. A bloody-appearing urine after santonin has been administered should be treated with acid, which will change the color to yellow. This would differentiate the santonin product from blood. After the administration of santonin, it is not unusual to have increased frequency of urination, and sometimes irritability of the bladder.

Fortunately, but a small portion of the drug is absorbed, and this is absorbed as sodium santoninate. The major part of the drug ingested passes through the intestine unassimilated and stimulates the intestine somewhat, causing increased peristalsis. It has not been determined whether santonin stupefies the round worm, or whether it sets up an intoxication of the worm which kills it. At any rate, the round worm, under the influence of santonin and a cathartic, is expelled, sometimes dead, sometimes alive.

Toxic Action.—If a poisonous amount of santonin is absorbed (and if santonin remains long in the stomach and intestine such an amount is readily absorbed) the hands and feet become cold, the face pale, there may be profuse perspiration and a weak pulse, typical collapse symptoms. On the other hand, there may be dizziness, tremblings, and convulsions, followed by coma, and death from failure of the respiration. The treatment is rapid evacuation of the stomach and bowels, the administration of strychnin, coffee and whiskey or brandy if there is circulatory failure, and the application of dry heat to the body. If the nervous symptoms are much in evidence, and especially if there are convulsions, inhalations of chloroform should be given, and then later the collapse symptoms treated.

Therapy.—There is only one legitimate use for santonin, and that is to remove the *Ascaris lumbricoides,* or round worm of the intestine. It has been recommended and used for incontinence of urine in children, in epilepsy, and in some diseases of the retina and optic nerve, but there is no justification for such use of this drug.

Administration.—It has been stated that an oil would cause this drug to be more readily absorbed, and therefore, poisoning could more readily take place. This seems not to be true. In fact, castor oil administered with, or perhaps better an hour or two after the santonin, is a preventive of its absorption.

The dose for a child 5 years old is 0.03 gram (½ grain), well combined with a small dose of calomel. This dose may be repeated once an hour for three times, and then not repeated for at least three days.

Sodium santoninate is more soluble, and therefore more rapidly absorbed than santonin, and hence is more dangerous than santonin, and should not be used.

It is needless to state, after the description of the above toxicology, that santonin should not be given carelessly to young children. In fact, it should not be sold by a druggist except through the prescription of a physician. Serious poisoning not infrequently occurs.

Official Preparation.—Trochisci santonini, troches of santonin, contain 3 per cent. of santonin, with sugar, tragacanth and a small quantity of orange flower water. Each troche contains 0.03 gram (½ grain). The dose for a child 5 years old would be one tablet, thoroughly chewed up, every hour for three doses, this followed by a cathartic.

SPIGELIA, U. S. P.

PINK-ROOT

Description.—Spigelia, genitive spigeliæ (*Spigelia marilandica*) is a plant of the states around or near the Potomac River. It is variously known as the Maryland, Carolina or Indian pink; often also called worm weed and American worm-root. The plant grows to a height of one or two feet, and the part official is the dried rhizome and roots. It contains a volatile alkaloid, spigelin, a bitter principle, a volatile oil, resins, tannin, wax, fat and a gum.

Action.—This drug has no special action externally. When taken internally it causes, ordinarily, no systemic effects. If it remains long in the intestine not accompanied by or soon followed by a cathartic, enough may be absorbed to be depressant to the nervous system and circulation. In exceedingly rare instances it might cause irritation to the nervous system and could cause death. In the intestine it exerts a stupefying or toxic effect on the round worm, and catharsis completes the extirpation of the parasite. The drug passes out of the body principally by the intestines, without any absorption having taken place.

Toxic Action.—It is exceedingly rare for any toxic effect to occur from spigelia. If, however, it remains long in the alimentary tract, enough could be absorbed to cause muscle and circulatory weakness, impairment of vision, dilatation of the pupil, possibly delirium and convulsions, with general paresis and coma. Such action from this drug, however, is exceedingly rare, and could only occur when the mistake was made of not combining in some way the administration of the drug with a cathartic. The treatment would be evacuation of the stomach and bowels, cardiac stimulants, especially strychnin, and surrounding the body with dry heat.

Therapy.—The only therapeutic use for spigelia is to promote the removal from the intestine of the round worm, and occasionally to aid in the removal from the rectum of the pin worm.

Official Preparation.—Fluidextractum spigeliæ. The single dose for a child of 10 years is 5 c.c. (1 fluidram), a teaspoonful.

Administration.—The fluidextract is the best preparation of this drug, and it is used combined in the same prescription with the fluidextract of senna, with one part of the fluidextract of senna to two parts of the fluidextract of spigelia, and the dose for a child five years of age would be about one-half a teaspoonful of the mixture, every hour for three doses, and then if the bowels do not move in two or three hours, some brisk purgative should be given.

For efficient action of any anthelmintic the bowels should be well moved some hours previous to the administration of the anthelmintic, and any nourishment given during the period of activity of the treatment should be either simple bouillon or weak tea.

It should be remembered that spigelia does not kill round worms, but stupefies them; consequently, if good cathartic action does not soon occur after the administration of the spigelia in combination with a laxative, a brisk cathartic, as a saline, should be administered, else the worms revive and are again difficult to remove.

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[*For other information see second page following reading matter*]

SATURDAY, MARCH 18, 1911

ANIMAL EXPERIMENTATION

The Bureau for the Protection of Medical Research of the American Medical Association has had prepared, by experts in the several fields, pamphlets on the relation of animal experimentation to practical medicine and surgery.[1] The latest pamphlet and one of the best and, we believe, most effective of the series, on "Some Characteristics of Antivivisection Literature," is by Dr. W. B. Cannon, the chairman of the bureau.[2] In it the nature of antivivisection methods is discussed after an extensive study of antivivisection pamphlets, leaflets and letters to the daily press.

The antivivisectionists have always made much of the testimonials of physicians in their behalf. Examination of the list of physicians whom they quote gives an instructive revelation of the methods of the agitators. Sir Charles Bell, dead nearly seventy years, secured the final proof of his greatest discoveries by experiments on animals done a hundred years ago; he is quoted as opposed to present methods of medical research. The address of Dr. Henry J. Bigelow, delivered forty years ago and based on experience in pre-anesthesia days, is quoted without reference to a later letter in which he admitted the utility of experimentation and objected sharply to the failure of antivivisectionists to discriminate between painful experiments and those in which pain is minimized. Dr. Lawson Tait, known generally as "a man of wild statements," whose denunciation of Koch, Pasteur and Lister has been widely quoted, is shown to have "enjoyed being in a minority," which led him to champion many lost causes.

Other physicians, whose opinions are quoted in antivivisection pamphlets, are as follows: Dr. Charles Clay, born in 1801, "interested in geology and archeology and collector of fossils." Dr. Charles Spooner, born in 1806, veterinary surgeon. Dr. John Elliotson, born in 1791, mesmerist, and founder of a mesmeric hospital. Dr. J. E. Garretson, born eighty-two years ago, and Dr. Elizabeth Blackwell, born eighty-nine years ago. Sir William Fergusson, M.D., born more than a century since, said to be ill-advised in some expressions of opinion, "especially in matters requiring more knowledge of physiology and hygiene than he possessed." Charles Bell-Taylor (dead in 1909, aged 80) who originated the widely quoted sentence: "Pasteur does not cure hydrophobia, he gives it"; and who, ignoring our great debt to animals for the medicines that induce sleep, for all those that give us local freedom from pain, for physostigmin, amyl nitrite, epinephrin, and many others, told his antivivisection admirers that experiments on animals have yielded us no knowledge of drugs. Sir Richard Owen, M.D., comparative anatomist and zoologist, born in 1804. Dr. John Abernethy, who *died* in 1831. J. J. Garth Wilkinson, born ninety-eight years ago, holder of an *honorary* M.D. degree, poet, mystic, expositor and editor of Swedenborg, author of "Improvisations of the Spirit," etc.

Information regarding the living "physicians and surgeons of greatest eminence" was obtained from the little autobiographies in "Who's Who." Dr. Arabella Keneally sets herself down as novelist and contributor to magazines, author of "Molly and Her Man of War," "Some Men are Such Gentlemen," and other volumes. Dr. W. Gordon-Stables describes himself as novelist, journalist, professional writer for twenty-four years, author of 136 books and serial novels; "In the Dashing Days of Old" and "The Pirates' Gold" are cited as examples. Dr. W. R. Hadwen is secretary of the British Union for the Abolition of Vivisection, public advocate of the repeal of the vaccination acts and the prohibition of experiments on animals; is engaged in reform movements relating to temperance, food, hygiene, sanitation, education, and burial laws; he finds his recreation in changing his occupation. Dr. Edward Berdoe, born seventy-four years ago, reports himself as a writer; author of Browning studies, "Browning and the Christian Faith," "A Browning Primer," "The Browning Encyclopedia," "The Biographical and Historical Notes to Browning's Complete Works," and several other books; also editor of the *Zoophilist*. Dr. Josiah Oldfield is given as a lawyer, and senior physician to the Lady Margaret Fruitarian Hospital, strong advocate of the fruitarian diet; author of "Flesh-Eating as a Cause of Consumption," "Butchery and Its Horrors," and other volumes. Dr. J. D. Buck, 72 years old, is said to be president of the Theosophical Society of Ohio, author of "Nature and Aims of Theosophy," "Mystic Masonry," "Why I am a Theosophist." Dr. Stephen Townsend is given as novelist, surgeon, and actor, on the stage for years, playing prominent rôles in "Sowing the Wind," "Slaves of the Ring," "Black Tulip," and others.

This completes the list of "eminent" physicians and surgeons who have opposed vivisection, concerning whom any characterization whatever was found—the rest are not of sufficient importance to be mentioned in any of the dictionaries or cyclopedias of biography searched through for information. And this is the array of medical experts who have denounced the method of

1. See advertising page 34, this issue.
2. Critic and Guide, February, 1911

investigation which, according to Osler, "did more, in the half-century between 1850 and 1900, to emancipate medicine from the routine and thraldom of authority than all the work of all the physicians from the days of Hippocrates to Jenner."

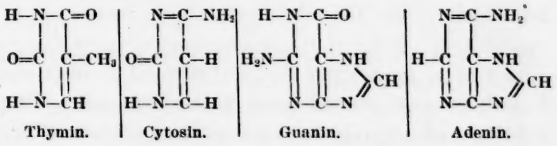
Dr. Cannon next examines some of the accounts of experiments cited in antivivisection pamphlets, and shows how persistently the opponents of medical research have refused to correct serious misstatements regarding the work of medical investigators. Fifteen years have passed since Dr. H. P. Bowditch pointed out the absurdity of the charge that supreme "agony" was caused by stimulating a piece of nerve separated from the central nervous system—the slander is still being distributed. Ten years have passed since Dr. W. W. Keen laid bare in THE JOURNAL instances of repeated interpolations, mistranslations, and garbled, inaccurate accounts of experiments in a single antivivisection publication—the New York Antivivisection Society is now circulating literature in which the deceptions and evil insinuations are still retained. Two years ago, Dr. F. S. Lee again indicated publicly definite instances in which the antivivisectionists were deluding the public—in pamphlets now sent broadcast these misrepresentations are still present, unchanged. Two years are not enough for the antivivisectionists to learn a proper sense of honor, nor are ten years, nor fifteen, for during these long intervals there has been no attempt of the prevaricators to reconstruct their statements in conformity with the facts.

In conclusion, Dr. Cannon points out the fundamental wrong committed by the antivivisectionists, which is the presentation of accounts of medical research without any reference to its motives or its triumphs. They fail to express the important issues of disease and death which depend on the results of medical investigations, and they refuse to recognize that by the sacrifice of some animals the chances for life and health for mankind and for myriads of other animals as well, are enormously enlarged. The accounts of these inestimable blessings which have resulted from animal experimentation are now available to everyone in the pamphlets above referred to published by the American Medical Association.

It is clear from the considerations given in this pamphlet that before the antivivisectionists can command the respectful attention of intelligent people they must fundamentally change their tactics. They must clear their literature of the superseded testimony of men long since dead, men who had no conception of the merciful procedures of modern experimentation, or of its life-giving results. They must rid their publications of the testimony of "experts" whose reputations, such as they are, were made in literature, art or theology, and not in medicine. They must purge their propaganda of the fraud and trickery and evil insinuation that have for years characterized it. And the process of making their methods clean and their ways straight should involve paying some respect to the high purpose of biologic investigation and its beneficent achievements for human welfare, which together give meaning and sanction to the experimental use of animals.

THE CHEMISTRY OF THE NUCLEINS

There is probably no field of science in which greater progress has been made recently than in organic chemistry, and not the least spectacular development of this has been along physiologic lines. Late years have witnessed a fairly adequate solution of the riddle of proteid composition, and in a recent article Kossel,[1] himself among the foremost investigators, summarizes the progress made toward the analysis of a similar problem—the composition of the nucleins. Nuclear materials from manifold sources all indicate these substances as the essential element in the composition of the nucleus; and when the importance of the latter is realized in all processes that are considered most peculiarly vital, the value of the study of the nucleins can be appreciated. In general it has been found that these can be split into two main constituents, a proteid and nucleic acid. The former does not differ radically from proteids from other sources; and it is the composition of the latter that forms the main problem of this particular phase of organic chemistry. By subjecting various nucleic acids to the less powerful means of chemical decomposition, it is possible to obtain certain groups which, by their junction, apparently build up the complex molecule. The nitrogen-containing groups so far found are four in number—thymin, cytosin, guanin, and adenin. The two former have a single, the two latter a double, carbon and nitrogen ring—this last being the so-called purin ring.



The remaining part of nucleic acid can in turn be broken up into two main constituents—phosphoric acid and a carbohydrate.

Although the chief groups entering into nucleic acid are thus enumerated, their quantitative relations and their arrangement in the molecule still remain to be investigated. In regard to the former point, it has been found that for each of the four nitrogen-containing groups there are in the molecule one each of the carbohydrate and phosphoric acid groups, thus giving at the very least twelve of these simpler bodies for each nucleic acid molecule. Needless to say, the nucleic acids from various sources differ in composition, and there are countless ways in which this may occur. So nucleic acids have been found in which one or more of the four

1. München. med. Wchnschr., 1911, lviii, 65.

nitrogen-containing groups are absent. The carbohydrate in turn may have only five carbon atoms, instead of the usual six, or conceivably even less.

The proteid and nucleic acid, forming by their union a nuclein, may vary considerably in the way they are joined. In some cases the union is a feeble one, and in others it is so strong as to offer obstinate resistance to decomposition. One of the chief sources of material for the study of the nucleins has been the heads of spermatozoa of various animals, and it is a peculiar fact that the firm type of union has been found in the sperm nucleins of warm-blooded animals, while lower forms of life have the other type. Unfortunately, not enough work has as yet been done to justify generalization on this point. In those cases in which the proteid molecule has been found loosely held, the union is similar to that of a base and an acid to form a salt. Such proteids are much more strongly basic in character than usual, and the explanation has been found in their chemical composition. The groups forming a proteid molecule are for the most part of the "amido-acid" type—that is to say, they possess an acid as well as a basic, amido (NH_2) radicle. A simple instance of such an amido-acid is amido-acetic acid, $H_2{=}C(N H_2){-}COOH$, in which the COOH group possesses acid, the NH_2 basic properties. In the more complex amido-acids there may be more than one amido group, and it is of this type that the basic proteids—those found loosely bound to the nucleic acid—are composed. Other more complex nitrogen groups, that also impart basic properties to the molecule, occur in them as well, giving these proteids a nitrogen percentage much higher than that of the more usual forms.

It will be seen that considerable progress has already been made toward the solution of the problem of nuclear composition. Since it is the chromogenic—the nuclein—portion of the nucleus that initiates cell division and, according to our present belief, transmits the hereditary functions of all life, the further developments of this subject assume an importance far beyond the scope of the chemical problems involved.

VAN 'T HOFF AND MEDICAL SCIENCE

There are certain persons who are fond of insisting that the fundamental medical sciences should be taught in what they are pleased to call a "practical" manner. They resent the growing tendency to insist that the preliminary education in science subjects should be given in colleges and universities rather than in the medical schools. "Medical chemistry and medical physics," they say, "should be taught by medical men in medical schools, so that the students may learn what is of practical use to physicians without wasting their time on matters of mere theory."

If a refutation of these arguments were necessary there could be found no illustration better than that furnished by the entrance of physical chemistry into medical science. How many men who were taught chemistry in the average American medical school by the "practical teacher" two decades ago, or even half as long ago, were given the slightest inkling of the then theoretical subject of physical chemistry? We doubt that there were any — certainly they were few, and fortunate in that their teachers were less "practical" than they were supposed to be. Yet at this time the same graduates, now in their best years, know that progress is being made behind what to them must remain a closed door, unless they have the time and the rare energy to go back and make up one of the many defects in their training, for which not they themselves but a faulty system of education is responsible. None of us can foretell what direction progress will take, and we know not which scrap of theory of to-day will be the foundation of our great advances a few years hence. The plant cells and salt solutions of de Vries and the semipermeable membranes of Traube, unknown to the medical teacher two decades ago, were then pointing out lines of investigation whose fruits are now being reaped by physiology and pathology, and prepared for the clinical medicine of the near future. Therefore we must teach our fundamental sciences as sciences, and provide our students with a grasp of principles which will enable them to understand the new developments in these sciences, rather than equip them with a catalogue of supposedly useful information which may be useless slag by the time their diplomas are framed.

We are impelled to the foregoing reflections by the news of the death of Prof. J. H. van 't Hoff, the eminent Dutch chemist, since 1895 professor of general chemistry in the University of Berlin, and in 1901 awarded the Nobel prize for physics. His was one of the great minds in which were developed the fundamental ideas which have brought physical chemistry into the foreground during the past quarter of a century, and for the assistance afforded to physiology and pathology over many hard places in their road by this new arm of chemistry must medicine be grateful.

The botanists Pfeffer and de Vries developed many of the fundamental facts on which depends the theory of osmotic pressure, advanced by van 't Hoff in 1885, and on which his fame most largely rests. This theory, amplified, and corrected as to certain features by the discovery of Arrhenius of the principles of electrolytic dissociation, has been of the utmost service in all the biologic sciences. It is, indeed, impossible to consider any vital phenomena without taking into account the osmotic pressure of the solutions in which they occur, and the influence of the diffusion membranes which form the cell walls and the nuclear boundaries. To understand hemolysis, phagocytosis, absorption, secretion, edema, expansion and contraction of cells, the

action of drugs and poisons, without a real knowledge of the principles of solution and osmotic pressure, is entirely out of the question, and the terminology of physical chemistry is as familiar to the well-trained medical student to-day as was Gray's "Anatomy" to the student of an earlier generation. It is perfectly safe to say that physical chemistry will give fully as much to medicine as organic chemistry, and it is our duty to realize that it is to such masters as van 't Hoff, who furnish us with principles, that we are indebted, more than to those who merely apply them to our immediate needs and uses.

ADVERTISING—LAY AND MEDICAL

The fight during the last five or ten years for decency and truthfulness in advertising has had one result: many newspapers and magazines no longer accept advertising "copy" in which untruthfulness and fraud are evident. As a corollary of this state of affairs, many advertisers no longer prevaricate in the advertising pages of the journals they patronize; they confine their untruthfulness to the circular letters and advertising leaflets which they send out direct. For this reason it has become increasingly difficult to convince publishers that many a firm whose advertising they accept is perpetrating a fraud on the readers of their magazines and newspapers.

This point was recently emphasized in a letter from the editor of a popular health magazine—*Life and Health*—calling attention to the degree of watchfulness that a publisher must exercise, if he desires to keep his advertising pages clean. The editor in question sent us a booklet issued by a firm that advertised in his magazine—the Robinson Manufacturing Co. of Toledo, Ohio. This concern manufactures and sells portable Turkish-bath cabinets—devices, one would imagine, that could be sold on their merits. The advertisements, as they appeared in different magazines, were practically unobjectionable; the booklet, however, sent direct from the company to the prospective customer, contained the most preposterously false and fraudulent claims. For example:

"Kills the poisons of nearly every disease known to physicians."

"Quickly destroys the uric acid of rheumatism and malaria."

"Destroys the germs of consumption or tuberculosis by the heat produced."

These are but some of the claims made for the Robinson bath cabinets. The editor of *Life and Health* says that as soon as he saw the booklet, he at once rejected the firm's advertising on the grounds that he does "not believe it is consistent with our policy of teaching right principles to advertise such literature."

The effect this action had on the advertising agent of the magazine was thus described by the editor:

"I have constantly refused to accept this class of advertising, and it has rather 'queered' our advertising agent, who thinks I have taken an extreme view of things, and it certainly has been a policy that has very greatly diminished our advertising receipts. It is not a policy that helps our subscription list very much."

We have here, briefly, the problem that confronts the publisher of every journal, lay or medical, when he uses discrimination in the acceptance of advertisements. It is not surprising that the advertising agent thinks the publisher of a lay journal is "extreme" when he refuses to accept any advertisement that finds acceptance in supposedly reputable medical journals. Yet, we find a well-known New York medical weekly as well as other medical journals carrying advertisements of this bath cabinet and reputable physicians lending moral and financial aid to these journals both by subscribing for and by contributing to them. No wonder newspapers and magazines accept advertisements of things of a medical nature that are fraudulently exploited, so long as medical journals will accept similar advertisements! Nor is it surprising that the physician who writes to a lay publication, protesting against the medical advertisements therein, receives a letter suggesting that, before the medical profession tries to reform the lay press, it should first clean its own skirts.

Current Comment

A DEMONSTRATION OF ARMY SANITATION

The mobilization of a large force of men on the Mexican border by the military authorities will give opportunity for a demonstration of such improvement in army sanitation and hygiene as has been made since the Spanish-American War in 1898. The lesson of that war was severe. On account of lack of an adequate medical staff, organization, equipment and appropriations—a grievous unpreparedness for actual field conditions—the mortality and morbidity of the forces, under simple camp conditions, which, on account of the absence of danger of invasion by the enemy, should have been under complete control, were not much better than those of the Civil War. The possibilities of camp and army sanitation under actual war conditions were well demonstrated by the Japanese in their war with Russia. It remains to be seen whether our army has profited by these two examples. Improvement has undoubtedly been made, and conditions, in the regular army at least, under practice-camp conditions, with comparatively small forces, have perhaps become almost ideal. The experience with small forces in the Philippines has also no doubt served a useful purpose in teaching the requirements of army sanitation under war conditions. Even though the mobilization of the present forces is only intended for maneuver purposes, the conditions will more nearly simulate actual war conditions than any movements of the army during the last decade. In a semi-tropical country, with scant or defective water-supply, with possibilities of malaria and other infectious diseases, the resources and organization of the medical department would be practically tested.

COMPRESSED OXYGEN

The report of the Council on Pharmacy and Chemistry in another part[1] of this issue shows how the work of this body is broadening. In the past the Council's reports have dealt with proprietary articles or with nonproprietary drugs which form the basis of proprietary medicines. The present report relates to an entirely different substance—oxygen—which, so far, is one of the few things which have not been appropriated by proprietary medicine houses. The purity of oxygen is a most important matter—more important than the purity of many official drugs—because it is often depended on to save a life that is at its lowest ebb, and where the slightest impurity might have the most serious consequences. While to those unfamiliar with analytical work of this nature, the amount of labor represented by the report of Professors Smith and Leman will not be apparent, it was none the less real. It is gratifying to find men of high standing outside of the profession ready to cooperate with the Council in its efforts to bring about better conditions. The good quality of the oxygen on the American market is a matter for congratulation.

PHYSICIANS AND DREADNAUGHTS

Spectacular heroism usually has a prompt reward in homage and praise; but that is a truer heroism which is unostentatious or unrecognized, because it is not for glory; rather it is an unselfish self-sacrifice. "Those missionary doctors who are going among the stricken natives in an effort to stamp out the plague are as great heroes as any who ever faced the yellow fever in their own country, and more so, because the duty did not come to them. They sought it out." Thus speaks the St. Louis *Star* of the situation in China, and adds this pointed comparison: "The missionary doctor presents a less spectacular picture to the eye than a dreadnaught, but he is a far better messenger for civilization to send to those who dwell in darkness." The spread of the bubonic plague in the East has inspired terror in the inhabitants and foreign visitors and many of the latter have made a hasty departure from the stricken regions. The physicians,[2] as always, are going about combating the pestilence in the most vigorous fashion, uninfluenced by fear or terror; and to compare them with dreadnaughts is indeed appropriate.

FAKES AND THEIR IMITATORS

The success, through advertising, of a nostrum which has little or no special merit, causes a host of imitators to spring up, in the hope of reaping a like profit in humbugging the people. But failure often results, because these imitators do not possess the business shrewdness or the means for advertising which were at the disposal of the original fake. This is emphasized in the March number of the *California State Journal of Medicine* which describes the Viavi fake. Its imitators are clumsy, but "they may be also deadly, as when they imply that cancer may be prevented or cured by the use of their stuff. They all forget that what has made the monumental success of the Viavi fake is not the fake itself—it is the keen, shrewd, cunning brain of the little Law brother, one of San Francisco's most wealthy and distinguished citizens. It is not the three little shells and the elusive little pea that are so valuable to the 'shell game' faker; it is the dextrous way in which he works the fake. The promoters of these clumsy imitators of the Viavi fake will never get to be directors of the Young Men's Christian Association; they have not the guiding genius of the little Law brother to manipulate the fake."

1. N. N. R., page 813; Propaganda for Reform, page 833.
2. In this connection it will be of interest to note a letter from a missionary physician in China which appears in our Correspondence Department in this issue.

FIRST AID TO INJURED CREDIT

The general advantage to the public of instruction in "first aid to the injured" seems not to have been wholly realized heretofore. In a recent instance, after purchasing some goods in a store, a man offered in payment a check signed by a physician and asserted that he was the physician. The clerk, whose suspicions were aroused, asked the customer to state how many bones there are in the human body. The alleged physician was unable to do so, became confused, was arrested and proved to be an impostor. We hope that the employer appreciates the value of such a clerk. He has learned the first principle underlying first aid to the injured—that prevention is better than cure.

Medical News

ALABAMA

Society Meetings.—Hale County Medical Society, at its annual meeting in Greensboro, elected the following officers: president, Dr. Reuben F. Monette; vice-president, Dr. R. A. White, Jr.; censor, Dr. Edgar P. McCollum, and secretary-treasurer and county health officer, Dr. Charles A. Poellnitz, all of Greensboro; health officer, Dr. Shelby C. Carson for Greensboro; Dr. Elisha N. Driver for Newbern, and Dr. Rufus J. Griffin for Moundsville.——Dallas County Medical Society, at its annual meeting, held in Selma, elected the following officers: Dr. William W. Harper, Selma, president; Dr. Lawrence H. Moore, Orrville, vice-president; Dr. James S. Chisholm, Selma, secretary, and Dr. Samuel B. Allison, Carlowville, county health officer.

CALIFORNIA

Milk Commissions to Meet.—The third annual meeting of the California Association of Medical Milk Commissions will be held at Santa Barbara during the meeting of the State Medical Society which convenes April 18. The chief subject to be discussed at the meeting will be "Bovine Tuberculosis in Relation to Public Health." Papers on this subject will be read by Dr. George S. Baker, inspector in charge of the Bureau of Animal Industry, United States Department of Agriculture; Dr. C. M. Haring, professor of veterinary science in the University of California; Dr. M. E. Jaffa, professor of agricultural chemistry in the University of California, and Dr. Chester Roadhouse, formerly United States Meat Inspector, and expert to the San Francisco County Medical Milk Commission. Physicians, sanitarians and producers and consumers of milk are invited to attend the meeting.

ILLINOIS

Supreme Court Decision.—By a recent ruling of the supreme court in the case of The People vs. Wilson, paragraph 12 of the Medicine and Surgery Act is declared unconstitutional. This section has to do with the licensing of itinerant vendors

of patent and proprietary medicines, which makes it necessary for such persons to pay a license of $100 a month for the privilege of selling medicines.

Personal.—Dr. Frederick A. Renner has been appointed local surgeon of the Illinois Traction System Hospital Association and of the Illinois Traction System at Benld.——Dr. Charles G. Beard, Sterling, has been appointed local surgeon for the Burlington System at Sterling and Rock Falls.——Dr. N. E. Wayman, Chicago, has been appointed state bacteriologist, vice Dr. William H. Holmes, resigned.

Chicago

Dismissal Confirmed.—Twelve members of the Board of Managers of Mary Thompson Hospital met, March 4, and confirmed the dismissal of seven members of the staff and two interns, who are said to have threatened to disrupt the hospital if they were not reinstated.

Get Together Banquet.—At the get together banquet, held March 9, by the Chicago Retail Druggists' Association, members of the Chicago Medical Society and the Chicago Odontographic Society were entertained. Dr. Alexander Hugh Ferguson presided as toastmaster. Harmony was the dominant note of the meeting.

Death-Rate Increasing.—In the quadrennial report of the department of health, the annual mortality for the period is given as 15.72 per 1, 000 in 1907, 14.49 in 1908, 14.58 in 1909 and 15.21 in 1910, showing an increase in the mortality rate for last year. This increase is in the deaths by violence, heart disease, cancer and nephritis. In the preamble of the report the health commissioner lays the responsibility of the increasing death-rate to lack of appropriations properly to carry on the work of the health department, which he says is handicapped by lack of men and money.

MARYLAND

Inmates Build New Asylum.—In the erection of the new State Insane Hospital for Negroes at Crownsville, near Annapolis, much of the labor is being done by negro inmates of the different asylums of the state.

Baltimore

New Hospital.—The South Baltimore General Hospital was chartered in January last. Among those connected with the institution are the mayor, and Drs. Guy L. Hunner, Harry E. Peterman and Anna S. Abercrombie. The incorporators are endeavoring to raise $100,000 for the buildings of the new hospital. A site will probably be chosen on the water front at Locust Point in the Fort McHenry district.

Diphtheria at Johns Hopkins.—The outbreak of diphtheria in Johns Hopkins Hospital is practically over. The health department publishes figures to show that the outbreak was confined to the hospital and to the Church Home and Infirmary, and that there has been no increase in the prevalence of the disease in the city at large. None of the cases in the hospital was serious as antitoxin controlled the disease satisfactorily. On March 11 there were still eight cases in the hospital, all in the isolation ward. Work at the Johns Hopkins Medical School was resumed March 8 and 9. The dispensary was opened March 9, and the dispensary at the Hebrew Hospital on the same date. The Church Home has been reopened for patients.

MASSACHUSETTS

Bequest to Hospital.—By the will of Mrs. Rosa A. Cole, Kingston, a bequest of $100,000 is made to the Jordan Hospital, Plymouth, and in addition the hospital is made residuary legatee of the estate.

Personal.—Dr. John W. Chase, Dedham, was struck by an automobile, March 5, fracturing two ribs and causing injuries to his knees and internal injuries.——Dr. William H. Ruddick, South Boston, has been appointed chief marshal of the Evacuation Day parade.

Benefactions to Hospitals.—By the will of the late Mrs. William O. Moseley, Newburyport, the sum of $200,000 is devised to Anna Jaques Hospital, Newburyport, and $60,000 to Harvard University for two fellowships to enable medical students of marked ability to pursue studies abroad.——The late Sullivan Niles, Cambridge, bequeathed $3,000 to the Cambridge Hospital.——Salem Hospital was bequeathed $5,000 by the late Edward Lane, Salem, for the establishment of a free bed.

MICHIGAN

Medical School Anniversary.—On February 22, the College of Medicine and Surgery of the University of Michigan, Ann Arbor, celebrated the anniversary of its foundation. Dr. Alfred S. Warthin addressed the evening meeting on "Disease in Art."

Object to Newspaper Exploitation.—The Hillsdale County Medical Society, at its meeting, March 3, adopted resolutions requesting the newspapers of the county to refrain from noting the names of physicians in connection with operations or cases of illness, on account of the publication being unethical and in the nature of advertising.

Reference Library for Kalamazoo.—It was announced at the February meeting of the Kalamazoo Academy of Medicine that a medical reference library will soon be installed in that city and made available for members of the profession. *The Bulletin*, a semi-monthly publication of the Kalamazoo Academy of Medicine, made its first appearance, February 25. It is an eight-page sheet, and contains the program for the succeeding session of the academy, and also other news items and reports of special cases.

Personal.—By the will of Miss Sarah Finney, $100,000 is devised to Dr. Andrew W. Imrie, Detroit.——Dr. A. Marion Allen, Adrian, was thrown from his buggy, February 26, breaking his clavicle.——Dr. Charles L. Grube, Saginaw, has compromised his claim against the city of Saginaw for services during the small-pox epidemic to $2,434.95.——Dr. Charles F. Kuhn, Detroit, was severely shaken up and bruised in a collision between his automobile and another car, February 13.——Dr. Joseph Foster, Lansing, who has been ill with influenza, is reported to be convalescent.——Dr. Henry F. Thomas, Allegan, was seriously injured in a runaway accident, March 4.——Dr. Jean H. Whitney-Morse, Battle Creek, sailed for Porto Rico, March 11.——Dr. J. Earl McIntyre has been appointed local surgeon of the Grand Trunk System at Lansing, vice Dr. George E. Ranney, promoted to district surgeon.

MISSOURI

Physicians Indicted.—Eleven indictments are said to have been returned by the United States grand jury at Kansas City against physicians of that city charged with violation of the federal statute which makes it a crime for any one to use the mails for the dissemination of information regarding the induction of abortion. The accused were arraigned February 28, pleaded not guilty and were released on bonds of $5,000 each.

Medical License Law Valid.—In the case of George F. Smith, Webster County, a chiropractic charged with "treating and attempting to treat the sick and afflicted without first having obtained a license from the State Board of Health," in which the defendant appealed to the supreme court, a decision has been handed down which sets forth "that the method of practice disclosed by this record may be harmless and useful, but this treatment for sick related, to say the least, to the practice of medicine or surgery and so within the terms of the statute."

St. Louis

Personal.—Dr. C. W. Gould, assistant city bacteriologist, who has been ill at the City Hospital, is reported to be improving.——Dr. Frederick B. Hall has been appointed roentgenologist at the City Hospital, vice Dr. Russel D. Carman, resigned.

Section Officers Elected.—The Section on Internal Medicine of the St. Louis Medical Society has elected Dr. Louis H. Behrens, chairman; Dr. Oliver H. Campbell, vice-chairman and editor, and Dr. Llewellyn Sale, secretary-treasurer.——The surgical section of the society has elected Dr. M. George Gorin, chairman; Dr. Roland Hill, secretary, and Dr. Edmund A. Babler, treasurer.

NEW YORK

Physicians in State Legislature.—The assembly numbers among its members four physicians: Drs. Minor McDaniels, health officer of Enfield Center; Charles S. Butler, health officer of Harpersville; Robert P. Bush, Horseheads, and John Seeley, Woodhull.

College Seeks New Site.—It is reported that Albany Medical College is endeavoring to secure from the board of supervisors of Albany County an easement transferring to the college the property formerly occupied by the Albany penitentiary as a site on which to erect new college and laboratory buildings.

Rochester Academy Meeting.—Owing to sudden illness, Dr. Frederick G. Novy, Ann Arbor, Mich., was unable to be present

at the meeting of the Rochester Academy of Science, March 1, and the dinner in his honor was cancelled. Dr. Luzerne Coville, Ithaca, presented a paper before the academy on "Arteriosclerosis."

Hospital Notes.—Physicians of Babylon desire the establishment of a hospital in that village. The nearest hospital at present is that at Hempstead. The Board of Trade of Babylon has adopted a resolution favoring the project.——Auburn City Medical Society has adopted a resolution favoring the conversion of the present municipal hospital into a sanatorium for the care and treatment of tuberculosis patients.——Herkimer Emergency Hospital was obliged to close its doors, March 1, on account of financial stress. It is hoped that the hospital can be reorganized on a satisfactory basis.

New York City

Donation to Hospital.—Mr. Adolphus Busch, on the occasion of his golden wedding, March 7, donated $5,000 to the Children's Hospital.

Last Harvey Society Lecture.—The last lecture in the Harvey Society course will be delivered at the New York Academy of Medicine, April 1, by Dr. S. Weir Mitchell, Philadelphia, and will be "A Lecture on William Harvey, the Discoverer of the Circulation of the Blood."

Hospital in Hotel.—A unique feature in a new hotel now in the course of construction at Thirty-Fourth Street and Broadway, will be a hospital so arranged as to accommodate twelve patients at one time. This hospital is to be situated on the twenty-third floor of the hotel.

Department of Health Bulletin.—The Department of Health of the City of New York has undertaken the publication of a monthly bulletin which is supplied free of cost. The bulletin is intended for the information of public health officials, physicians and laymen interested in health problems, and will contain in each issue editorials and special articles dealing with various phases of public health work. The bulletin will appear about the fifteenth of each month.

Bellevue Overcrowded.—In this institution, whose normal capacity is 1,050, the average census for February was 1,200. On March 2 the number of patients was 1,330, the highest in the history of the institution. The authorities complain that they have been unable to transfer patients to the Metropolitan or the City Hospital for several weeks as these institutions are also overcrowded. The charter of Bellevue provides that whenever a case ceases to be a proper one for treatment at Bellevue, it shall be transferred to the Metropolitan or City Hospital on Blackwell's Island and a meeting of the trustees has been called to request the city to make some provision for patients from Bellevue.

Reorganization of Hospital.—At the reorganization of St. Mark's Hospital, March 7, the following new board of directors was elected: president, Dr. Benjamin T. Tilton; vice-president, Dr. Alexander Shulman; secretary, Dr. Andrew Von Grimm, and Drs. Otto Maier, Caesar A. Von Ramdohr and Charles R. L. Putnam. The following were added to the medical board: Drs. Benjamin T. Tilton and Charles R. L. Putnam, visiting surgeons; Dr. Andrew Von Grimm, visiting gynecologist; Dr. Otto Maier, visiting pediatrician and obstetrician; and Dr. Harry G. Watson, attending physician and visiting gastro-enterologist to St. Mark's Hospital Dispensary. Dr. Carl Beck resigned as visiting surgeon.

Medical Conferences.—Conferences have been arranged by the Educational Alliance with the endorsement of the Comitia Minora of the Medical Society of the County of New York and of the Council of the New York Academy of Medicine. They are given in the Auditorium, 197 East Broadway, corner Jefferson Street, at 8:30 p. m. On March 30, Dr. Henry C. Coe will speak on "Gynecological Operations by the General Practitioner." On April 9, Dr. Albert A. Berg will speak on "Lodge and Contract Practice." On April 17, Dr. Wm. M. Polk will speak on "Medical Ethics and Their Application to Practice." On April 23, Dr. Joseph Brettauer will speak on "The Secret Division of Fees." On April 27, Dr. Sigismund S. Goldwater will speak on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only.

NORTH CAROLINA

District Society Meeting.—The Fourth Councilor District Medical Society held its annual meeting in Wilson, February 14. The following officers were elected: president, Dr. James J. Philips, Tarboro; vice-presidents, Drs. William Spicer, Goldsboro, and Lacy D. Wharton, Smithfield, and secretary-treasurer, Dr. Michael M. Saliba, Wilson (reelected). The next meeting of the society will be held in Smithfield.

McCormack in North Carolina.—Dr. Joseph N. McCormack, Bowling Green, Ky., delivered an address before the North Carolina Association for the Prevention of Tuberculosis, and the members of the state legislature, Raleigh, February 1. At the conclusion of the address, State Senator Boyden, leader of the majority, rose, and in words of strong commendation told Dr. McCormack to have the physicians ask for what was needed to carry out the principles of public sanitation advocated by him, and the appropriation would be forthcoming. During the following week, Dr. McCormack in company with Dr. Chalmers M. Poole, Salisbury, president of the Medical Society of North Carolina, visited a number of the larger cities of the state and addressed large audiences.

Responsibility of Hotel Keepers.—The Supreme Court of North Carolina has recently handed down an opinion of possible interest to sanitarians, in the case of Patrick vs. Springs. Action was brought in the superior court several months ago against the keeper of a hotel in Washington, N. C., for damages suffered by the plaintiff by reason of having been assigned to an unsanitary room in which there was an unsafe or leaky gas fixture. The lower court awarded the plaintiff $250, and this award was sustained by the opinion of the supreme court, which was as follows: "It seems now to be well settled that in case of an injury occurring in consequence of the unsanitary and defective condition of the inn, premises or room to which a guest is assigned, the innkeeper is liable on the same principles applicable in other cases where persons come on the premises at the invitation of the owner or occupant and are injured in consequence of their dangerous condition."

OHIO

Personal.—Drs. Oscar Hasencamp, Toledo; Henry T. Sutton, Zanesville, and Robert H. Grube, Xenia, have been appointed members of the State Board of Health.——Dr. Thomas M. Sabin has been reelected president, and Dr. Frederick K. Smith, secretary of the staff of the Warren City Hospital.——Dr. Andrew J. Timberman, Columbus, is reported to be seriously ill with septicemia, due to an operation wound.

Tuberculosis Workers Incorporate.—The Columbus Society for the Prevention and Cure of Tuberculosis was incorporated March 4. The charter gives the society the right to acquire property, erect a hospital, employ nurses for patients, and teach methods of combating the disease. The prime object is to open the fresh-air school for which option on the Guerr Park property has been taken. Of the $5,500 required for this project, $3,600 has already been subscribed.

New National Guard Surgeons.—Dr. Edwin A. Hamilton, Columbus; John R. McDowell, Zanesville; James C. Pence, Lima; Don C. Hughes, Findlay, and Edward J. Wilkinson, Toledo, have passed the promotional examination and have been commissioned captains and assistant surgeons, M. C. O. N. G. Drs. Elijah J. Gordon, Columbus; Charles W. Stone, Cleveland, and Paul W. Tappan, Dayton, have passed the examination and have been commissioned first lieutenants and assistant surgeons in the medical corps.

Addition to Hospital.—Flower Hospital, Toledo, is about to award the contract for a new building which will more than quadruple the present capacity. The new building will contain ninety rooms and will cost about $100,000. The new staff of the hospital is made up as follows: chief of staff, Dr. Sidney D. Foster; surgical chief, Dr. Charles N. Smith; medical chief, Dr. Willard J. Stone; surgery, Drs. Sidney D. Foster, Albert F. McVety, Homer H. Heath and Clarence D. Selby; gynecology, Drs. Charles N. Smith, C. W. Worts and Joseph F. Fox; medicine, Drs. Willard J. Stone and Charles F. Tenney; pediatrics, Dr. George L. Chapman; eye, ear, nose and throat, Drs. Charles Lukens and Walter H. Snyder; obstetrics, Dr. William G. Dice; nerves, Dr. Louis Miller; dermatology, Dr. Edwin D. Tucker, and *x*-ray, Harry Dachtler.

Cleveland

Midwife Imprisoned.—Mrs. Annie Smith, a midwife of Cleveland, is said to have been committed to the workhouse for failure to report a case of ophthalmia neonatorum.

Personal.—Dr. Albert M. Dunlap, ward physician of the Eleventh Ward, is reported to be seriously ill with scarlet fever, contracted while attending a case in his district.——Dr. Hal F. Bishop, Cleveland, was committed to the Cleveland State Hospital for the Insane, March 6.——Dr. Charles M. Simpson has returned from abroad.

Hospital Notes.—Charity Hospital is endeavoring to raise $210,000, $150,000 of which will be used to erect a new surgical ward, and the remainder to liquidate a debt of the

institution.——A site has been secured by Lakeside Hospital, on which a maternity and children's hospital will be erected. Work on these will be started this year.

PENNSYLVANIA

Electrocution Bill Passes House.—The Morris electrocution bill passed the house on final reading on March 9 and was presented to the senate on March 12. The bill provides for the substitution of the electric chair for the gallows in carrying out the death penalty.

Women Elect New Officers.—At the annual meeting of the Woman's Medical Association of Pittsburg, held February 28, Dr. Caroline S. Marshall was elected president; Dr. Bertha E. Dornbush, vice-president; Dr. Elizabeth Anderson, secretary, and Dr. Johanna Baltrusaitis, treasurer.

Charity Home Fund.—Mrs. Eckley B. Coxe, on March 1, contributed $2,000 to the fund being raised for a United Charities Home in West Hazleton. Her subscription was the first received. The organization is attempting to raise $15,000.

Site for Convicts' Hospital.—Robert J. McKenty, warden of the Eastern Penitentiary, Dr. Samuel Dixon, State Health Commissioner, and John Francis, warden of the Western Penitentiary, form a committee of three, provided for by a bill introduced into the senate by Mr. McNicholls of Lackawanna County, to visit Far View, Wayne County, to select a site for a hospital in which tuberculous convicts will be segregated.

Railway Fatalities.—Statistics gathered by the State Railway Commission show that during January, 87 persons were killed and 664 injured on the steam railroads of the state. Of the fatalities, 34 were employees, 2 passengers, 48 trespassers and 7 others. There were 8 deaths at grade crossings. During the same period, there were 13 killed on the street railways and 272 injured. Of the killed, 5 were trespassers and 8 others.

Conflict Between Health Department of State and City.—A conflict between the State Health Department and the Lancaster Board of Health has resulted in the arrest of Dr. J. Miller Shartle, Lancaster, state registrar. A local ordinance requires that physicians shall report deaths to the City Board of Health. Dr. Shartle holds that having reported to the State Health Department, he had fulfilled all legal obligations. As it is desirous to determine the authority of the state in the premises, Dr. Shartle will be represented by counsel from the attorney general's department.

To Investigate Rittersville State Hospital.—An investigation of the construction of the Homeopathic State Hospital for the Insane at Rittersville, is provided for in a resolution presented to the senate, February 27, by Senator Judson. The resolution, which is referred to the judiciary special committee, recites that more than $1,700,000 of the State's money has been expended by the commission appointed to construct the institution; that the hospital is not yet completed, and has never housed or treated a patient, although the commission has been in existence since 1901. The resolution provides for the appointment of a committee which shall make a full investigation of the matter and hold public hearings.

Fireworks Manufacturers Favor Sane Fourth.—The Pennsylvania manufacturers of fireworks have volunteered to support the bill that has been presented to the legislature for the restriction of the sale and use of high explosives. The bill was formulated by the president of the Philomusian Club, who has been assured by virtually all the large dealers in fireworks in the state that, although the bill will certainly injure their trade, they feel it such a needed protection for children that the bill will not be contested, and its success therefore seems assured. The bill is aimed principally against the blank cartridge and provides that no blank cartridge, pellet or tablet, composed of chlorate of potash, dynamite or other high explosive compounds, shall be used in pistols, hollow canes or other toys for explosive purposes; that no fireworks containing gunpowder or like explosive material shall be over 6 inches in length and that no firecrackers containing gunpowder or like explosive materials shall be over 6 inches in length, and that firecrackers from 3½ to 6 inches long shall not be more than ¾ of an inch in diameter. The bill also aims to prevent manufacturers from importing the materials above mentioned from other places.

Philadelphia

Personal.—Dr. Harry Toulmin sailed for Europe, March 11. ——Dr. Helen Kirshbaum was operated on for appendicitis in the German Hospital, March 2

Trichinosis Prevalent.—It is reported that trichinosis is again prevalent in this city, causing at least one death during the past week. It is believed that the meat containing the trichinosis germ has been sold principally in the southeastern sections of the city as the majority of cases have been reported from that district.

The Midwife Abuse.—The weekly roster of the medical organizations of Philadelphia states that "a serious problem that soon must be solved by the Philadelphia profession is the present inadequate requirements for licensing of so-called midwives. This lawless element is a large factor in the growing crime of criminal abortion and must be controlled or perhaps suppressed. The Board of Health censured a local physician as recently as last week, for his carelessness in recommending certain women for licensure of this kind."

Cocain Users Sentenced.—A raid on a house at Thirteenth and Kenilworth Streets on March 8, resulted in the arraignment of seven alleged cocain users before Magistrate Barrett the next day. Mulvena Winter and Robert Sampson, colored, keepers of the house, were held in $500 bail each, for court, charged with obtaining and selling cocain among the colored people. Two men and two women, colored, were given three months each in the House of Correction. A white man also arrested at the house was given 6 months.

Dealers Oppose Milk Test.—On March 8, the "Downtown" Milk Dealers Association met in Ritter's Hall to protest against a bill introduced in the legislature by Representative McGuire, of Lackawanna County, providing for a 60 degree test in milk and for pasteurization of all milk. They declared that a 60 degree minimum temperature requirement would be an impossibility in the summer months, that the farmers oppose it and the railroads, by furnishing refrigerating cars, will raise rates, thereby forcing an increase in the retail price of milk.

Eulogium on Dr. Kelly.—At a special meeting of the faculty of the Woman's Medical College of Pennsylvania, March 3, a minute was adopted on the death of Dr. Aloysius Oliver Joseph Kelly, formerly professor of pathology in that institution, setting forth their appreciation of his rare mental qualities and his judicial character. He was from the first a leader in the cause of advanced medical education. He was a rare combination of amiability and strength, of a peace-maker and a combatant. He was most esteemed by those who knew him best.

Pure Food Work.—Gorgonzola cheese, imported into this city from Italy, has been found to bear a thick coating of paint said to contain barytes or barium sulphate with iron rust sprinkled on it for color. These cheeses were analyzed by Charles H. LaWall, Department Chemist.——On February 28, the federal agents confiscated 10,800 packages or 1,350 pounds of alleged impure gelatin at a wholesale grocery store on South Front Street.——On March 1, S. Sklaroff and Sons, smoked fish dealers, paid to Magistrate Beaton four fines amounting to $265, for selling smoked fish said to have been dyed.

Plans for Immigrant Hospital.—Plans for utilizing the upper deck of the new Vine Street Pier, or perhaps building a third deck to the pier to be equipped for a detention hospital for immigrants, was considered at a conference held February 27 and attended by Mayor Reyburn, Director Neff of the Department of Health and Acting Director Hasskarl, of the department of wharves, docks and ferries. A great many cases of contagious diseases, not extraditable under the quarantine laws, are brought into the city by immigrants exposing the public to risk. It is planned that all immigrants who show any symptoms of illness shall be detained at this new hospital for treatment and observation.

Pupils Begin Lunch Test.—At the request of the Home and School League, 50 children of the Woods School have been selected for experimental purposes, that is they are to be given warm luncheons at recess time, consisting of soup, stewed fruits, cocoa and bread for the period of a month. Since November, the League has been serving a three-cent lunch in two schools. As the children are unable to secure the luncheons daily, however, the league is determined to prove the value of the institution by providing the food free for fifty children and, by comparing their condition before and after the lapse of a month, obtain the needful argument in favor of the substantial lunch. These children have been subjected to a strength test, been weighed and careful notation of their physical condition made. The lunches will be varied each day and only the most nutritious food will be served.

Open-Air Schools to be Established.—Through the aid of the Phipps Institute, the first open air school for tuberculous chil-

dren will be opened on the roof of the McCall School, April 1. March 8, Alexander Wilson, secretary of the social service department of the Phipps Institute, met the elementary school committee and offered in the name of the institute to provide the equipment and organize the class if the board would allow the use of the school roof and furnish a teacher. The roof will be furnished with needed protection at the expense of the institute and the children will be provided with extra clothing. It will be conducted on the lines of a hospital with given hours for recreation, light occupation and study. Cots will be provided where the children will be required to rest at stated intervals and milk and eggs will be fed to them. Another class of less advanced cases will be conducted in an open air room of the Jackson School at Twelfth and Federal Streets. Director Neff has notified the committee that the State Antituberculosis Association has in its possession about $2,000 as its share of the proceeds of the Fairmount Park automobile races which could be used for this purpose.——Residents of South Philadelphia have begun an agitation in favor of an open-air school for children of their section, who may be suffering from tuberculosis or threatened with the disease.

TENNESSEE

New Methodist Hospital—Plans are being formulated by the members of the Memphis, White River, North Mississippi and Mississippi conferences of the Methodist Episcopal Church, South, to erect a hospital in Memphis to cost $250,000.

Health Board Appointments.—At a meeting of the Nashville City Board of Health, Dr. William E. McCampbell was elected chairman, vice Dr. W. Frank Glenn. The board has reelected Dr. R. Logan Jones as city bacteriologist and chemist; Dr. John T. Altman has been reappointed a member of the board.

Closer Union of Medical Schools.—Two years ago the Medical Department of the University of Nashville was united with the Medical Department of the University of Tennessee, taking the name of the Medical Department of the Universities of Nashville and Tennessee. The union, however, was only for a limited number of years. Efforts are now being made, according to reports, to secure legislation making this union permanent.

TEXAS

Quarantine Fees for Hospital.—The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point.

Yellow Fever in Mexico.—Reports of yellow fever in Mexico have caused the state health board alarm, and it is likely that a rigid quarantine will at once be established. On March 8, the state health officer, Dr. Ralph Steiner, went to Brownsville, on the Mexican border, to investigate the situation.

Health Bills.—The Texas Legislature is being asked to enact a law providing for the establishment of a state tuberculosis sanitarium; one to prohibit the use of public drinking cups; one to give the so-called "optometrists" a monopoly of the glass-fitting business, and one to perform on criminals and defectives the operation of vasectomy. Nearly all of these measures will die on the calendar.

Enacting a Sanitary Code.—The Texas legislature, now in session, will enact into law the sanitary code for Texas, which has had thus far only quasi-constitutional standing, in that the legislature at first sought to delegate to the state health board authority to enact the code. In Texas the legislature cannot delegate authority to make laws, so it has been difficult hitherto to make fines hold in the case of violators of the health laws. The bill has been unanimously passed by the senate and will undoubtedly receive similar treatment in the house, and the signature of the governor.

Distribution of Diphtheria Antitoxin.—State Health Officer Dr. Ralph Steiner, Austin, has just made arrangements whereby the state health board is enabled to distribute diphtheria antitoxin at exceedingly low prices for the benefit of city and county health officers and other physicians who desire antitoxin for indigent patients. The state health officer will handle no funds, but will merely hold the antitoxin subject to the order of those who will be directly responsible to the manufacturing company. It is hoped that city and county administrators will take suitable official action for the free distribution of diphtheria antitoxin.

Hookworm Campaign.—Wickliffe Rose, secretary of the Rockefeller movement against the hookworm, has just conferred with the state health authorities, relative to the perfecting of a plan for the extermination of the parasite in Texas. Last fall Governor Campbell disapproved the plan to accept Rockefeller's aid, saying that Texas can better endure the hookworm than to lay itself debtor to Rockefeller. Governor Colquitt may entertain similar views. State Health Officer Dr. Ralph Steiner, however, will exert every energy to secure a portion of the Rockefeller fund. Recent investigations among the students of the medical branch, at Galveston, of the University of Texas, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis.

WYOMING

Personal.—Dr. John B. Tyrrell, Laramie, has been appointed a member of the State Board of Medical Examiners, vice Dr. Samuel B. Miller, Laramie, resigned. Dr. Miller has moved to California.——Dr. W. W. Vance, recently appointed a member of the board of health of New Castle, at the organization of the board, was elected secretary.

FOREIGN NEWS

Northland Congress of Internal Medicine.—The seventh Scandinavian congress for internal medicine is to be held early in July, 1911, at Bergen.

International Congress of Pathology.—The date of this international gathering of pathologists has been fixed as Oct. 2-5, 1911; Turin is the place of meeting. The notices are being sent out by Prof. P. Foa, Corso Raffaello 30, Turin, in the name of the Societa Italiana di Patologia.

International Congress of Surgery.—The third congress of the International Surgical Association is to be held at Brussels Sept. 26-30, 1911, with an exhibition of fractures and methods of treatment in addition to the usual exhibition of surgical instruments and appliances. The three subjects to be discussed are surgery of the lungs and pleura, colitis and pancreatitis. Prof. Depage is the secretary general, Avenue Louise 75, Brussels, Belgium.

The Plague Abroad.—Cable despatches of March 13 state that with the exception of Mukden, the rate of mortality from the plague is decreasing in all the affected districts in Manchuria and China. Egypt reported 37 cases of plague, with 13 deaths, in the week ending February 10, while India reported 15,003 cases with 12,143 deaths in the week ending January 14. Russia has renewed her demand to be allowed to conduct the quarantine along the border and China has replied in favor of a dual quarantine, similar to that maintained in conjunction with the Japanese along the western boundary of Korea. The first cases of plague among hoofed animals are reported from the Fushan collieries, where bacilli were found in the carcasses of donkeys.

The Campaign Against Rats at Buenos Aires.—The *Semana Medica* opens the new year with the illustrated official report of the methods in use at Buenos Aires for extermination of rats. The work is centralized and squadrons are despatched to the premises to be attacked. They wall them off with sheet zinc and inside the buildings and yards use asphyxiating gases pumped into the rat-holes and tunnels through a hose from the generating cart or hand apparatus. The gas is produced by combustion of sulphur and arsenic or sulphurous acid gas is generated by the Marot apparatus which, the report says, is proving more and more valuable every day; it kills the rats and the insects on and about them while, properly managed, it is free from danger for the men and the building. A good rat dog is also regarded as indispensable for each squad of four men. The main point is to locate the actual breeding place, tracing the rats back from hole to hole until their permanent home is reached. The force of 100 men, supplemented by ten carpenters and masons, has become very efficient. The city is considered one of the most difficult to free from rats on account of the numerous livery and other stables and grain warehouses. The public garbage dumps are also great breeding places for rats; the dumps are now walled in with sheet zinc and incinerators are soon to be installed. The rats seem to prefer to make their permanent nests in vacant lots and gardens and particularly in chicken coops, near buildings to which they repair in search of food. The nests were sometimes found three feet and more underground. It is generally found necessary to take up part of the floor, to remove the rats asphyxiated by the gas. On suspicion of plague, cement is used to rat-proof the premises. The latest records given show from 12,000 to 14,000 rat holes thus cleared out each month with from 6,000 to nearly 9,000 rats killed. Dr. P. G. Rivero, who is in charge of the public health service which includes the deratization,

does not approve of offering premiums for rat-killing, as untrained persons are not competent to exterminate the rats and in time of epidemics do not take precautions against infection from them, while there is danger that rats may be bred for the bounty. Poisons and traps are of little use.

CANADA

Club Election.—Dr. Adam H. Wright has been elected president of the Æsculapian Club, Toronto; Dr. George Elliott, secretary and Dr. Edmund E. King, treasurer.

Militia Surgeons Elect.—The medical officers of the militia of Canada met in Ottawa on February 24. Major Edward A. Lebel, Quebec, was elected president and Captain L. S. MacKid, Calgary, Alta, secretary.

New Medical Journal.—The *Western Medical News* appeared in January as the successor of the *Saskatchewan Medical Journal*. The new journal is announced as the official organ of the Alberta and Saskatchewan medical associations.

Medical Reciprocity.—In a bill which will shortly be presented to the legislature by Mr. Mousseau of Soulanges, the endeavor is made to place medical men in the Province of Quebec and other provinces on an equal footing, providing these provinces accept medical certificates issued in Quebec. At present there is no reciprocity between the various provinces of the dominion.

Hospital News.—The Vancouver, B. C., general hospital treated 4,184 patients in 1910 as against 3,042 in 1909. The number of patients admitted during that year was 3,983. The percentage of deaths was 5.87. The Montreal General Hospital treated in the wards 3,586 patients, an increase of 284 over the previous year. There were 272 deaths. In the out-door departments the total number treated amounted to 13,588.

Registration Legislation.—There is every prospect of the bill before the House of Commons to provide for Dominion Registration becoming a law. British Columbia, Saskatchewan and Alberta, which have no universities teaching medicine, cannot have any university representation on the Dominion Council, but two of the three councilors the Government will name, will be appointed from these provinces until the teaching of medicine is begun there.

Report on Tuberculosis.—The report of the Royal Commission on Tuberculosis appointed by the Quebec Government, has been presented to the Legislature. The document gives very explicit and definite recommendations as to the most practical and efficacious measures to adopt to combat the white plague. It is signed by Drs. Emmanuel P. Lachapelle, J. George Adami, both of Montreal; Michael J. Ahern, Quebec; Thomas G. Roddick, James J. Guerin, both of Montreal, and other prominent physicians of Quebec.

Personals.—Dr. Harry B. Anderson, Toronto, has gone abroad to work at the von Noorden clinic.——Dr. E. G. Kidd has been appointed chief of the anatomical department of Queen's University medical department, in succession to Dr. Frederick Etherington, Kingston.——Drs. Helen MacMurchy, Estella O. Smith, Frederick S. Minns, C. E. Hill, George A. Winters, F. G. Munn and William Morrison have been appointed assistant medical inspectors of schools in Toronto.——Dr. Charles H. Vrooman, Winnipeg, late superintendent of the Manitoba Tuberculosis Hospital has been appointed superintendent of the Tranquille, B. C., institution.——Dr. J. Alexander Hutchison, chief surgeon of the Grand Trunk system, Montreal, is spending a holiday in the Mediterranean.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, Feb. 25, 1911.

Small-Pox in London

An outbreak of small-pox has occurred in the east end of London, and there are now twenty-five cases. The first patient was a Jewess, aged 12, who was admitted to the Mile-End Infirmary, February 5, after a few days' illness, suffering from an eruption. She was treated in one of the general wards till February 22, when the fact that other patients in the ward became ill led to a correct diagnosis. She was sent to the Small-Pox Hospital; soon after a patient from the same ward, a nurse, and a woman who scrubbed the ward were also sent to the Small-Pox Hospital. Another nurse was soon found to be affected. The nurses attacked had not been revaccinated. Three sisters of the first patient were found later to be affected with the disease. In all, eighteen cases arose in the infirmary. The ward in which the outbreak began has been isolated and its inmates have been detained under inspection for a fortnight. Every endeavor is being made to trace all persons who have been brought in contact with the disease, and extensive arrangements have been made for vaccination in the district. Small-pox in London shows great fluctuation. From time to time the disease is imported and gives rise to more or less serious epidemics. From 1885 to 1901 there was a period of comparative freedom, the number of cases falling as low as twenty-nine in 1899. In 1901 an epidemic of 1,700 cases occurred, which was followed by 7,796 in 1902. Since that year the disease has almost disappeared. In 1907 there were only eight cases and in 1908 four cases. In 1909 there were fifteen. The large number of unvaccinated persons, the result of the pernicious antivaccination campaign, is a cause of anxiety. The epidemic of 1901-2 gave a great impetus to vaccination, but this has now largely exhausted itself. In the locality of the present outbreak it is estimated that 32 per cent. of the children are unvaccinated.

Plague in India

The latest estimate of the ravages of plague in Manchuria gives 19,000 deaths in four months, and suggests comparison with India, where the disease has existed since 1896, and probably has caused no fewer than 9,000,000 deaths. In 1907 the death-roll culminated in the appalling figure of 1,300,000. Since that year there has been a remarkable decline. In the week ended Jan. 14, 1911, there were 12,943 deaths, and in the following week there were 20,157. There is one great difference between the pandemic in India and in Manchuria. In the former country the disease has taken the bubonic form, in the latter the pneumonic, and is, therefore, hardly less fatal to Europeans than to Asiatics. But, as the figures show, plague in India is much more deadly. Again, pneumonic plague is a winter disease, while the bubonic form increases during the first three or four months of the year and reaches a maximum in March or April.

The Eating of Cordite

During the late South African war a new drug habit came to light. Owing to the dearth of matches, the soldiers got into the habit of using the little rods of the new explosive, cordite, with which their cartridges were loaded, in order to light their pipes. By igniting one at a comrade's pipe other pipes could be lighted. Some of the men found that inhalation of the fumes of burning cordite had a narcotic effect. This led to the taking of cordite by the mouth, either solid or dissolved in tea. In those unaccustomed to the drug, even a small dose causes most unpleasant symptoms, chiefly severe headache, but those accustomed to the drug can swallow the whole contents of a cartridge. The face flushes, the head seems to swell, and after about a quarter of an hour the subject falls into a deep sleep. On awaking he suffers from thirst and headache. When taken in hot tea, cordite produces delirium, followed by sleep. Opium and alcohol taken in small quantities are used as "pick-me-ups" after cordite eating; and, inversely, cordite is used as a reviver after alcoholic intoxication. From the long use of cordite optic and mental delusions, timidity, weakness and a general breakdown, moral and physical, result.

Another Expedition Despatched by the Liverpool School of Tropical Medicine

The Liverpool School of Tropical Medicine has despatched its twenty-seventh expedition to Gambia and Senegal to investigate sleeping sickness. The members of the expedition are Prof. J. M. Todd, Dr. Wolbach of Harvard University and Mr. E. D. Todd.

Bonesetter Successfully Sued for Negligence

Mr. H. A. Barker, the well-known "bonesetter," and the successor of Hutton and Atkinson, has been successfully sued for negligence. For years he has been carrying on a large business. Extensive advertising has rendered his name a household word; the "oblique" form of advertising, in the shape of interviews illustrated with his portrait, which have appeared in the leading journals, has been largely used. He can boast of as large and fashionable clientèle as any leading surgeon. Indeed, in cases of bone and joint trouble, when dissatisfied with the advice of a great surgeon, many patients have resorted to Mr. Barker. Among athletes and football players he has a great reputation and is said usually to be consulted by them for injuries received in their pursuits. His methods are entirely manipulative, and, no doubt, prove successful in suitable cases. But the ignorant vaunting of a form of treatment, good for certain conditions, for every condition which human credulity will accept, has its dangers.

A man, aged 24, brought an action against Mr. Barker. In 1906 he twisted his knee in springing from a diving-board. From time to time subsequently he suffered from weakness, stiffness and pain in the joint. In 1909 he consulted Mr. Barker, who said it was a very bad case, but promised him a cure. Barker first ordered radiant-heat baths. On Nov. 25, 1909, he performed some manipulations under gas. For some time afterward there was slight improvement, and the knee could be moved better, but then the pain returned and he again suggested baths. On December 16 further manipulations were performed under anesthesia. Ten days later an ulcer appeared over the knees. Medical advice was then sought and the knee was found to be tuberculous, and the ulcer due to the extension of the tuberculosis produced by the manipulation. There was a sinus extending to the interior of the joint, and the latter was not only tuberculous, but septic. To save the man's life amputation was necessary. A letter was sent to the defendant by the plaintiff's solicitors claiming damages. To this he made the extraordinary reply that he treated the case on condition that he undertook no responsibility—a statement contradicted by the plaintiff. For the defendant it was stated that he had attended 30,000 cases, was a perfect genius at his profession, and cured 94 per cent. of his patients. He denied that he manipulated the joint, and alleged that the anesthetic was administered only for purposes of examination. But the eminent surgeons who gave evidence for the plaintiff said that to administer an anesthetic for examination of the knee was both unnecessary and improper. In his evidence the defendant said that when he first saw the plaintiff there was extensive tuberculous disease, the hamstrings were contracted, and the tibia was displaced backward on the femur and flexed at an angle of 40 degrees. For the defendant, Mr. Whitehead, the well-known Manchester surgeon, said that he examined the amputated leg, and that the knee must have been in hopeless condition when the man first consulted Mr. Barker. The jury gave verdict of $100 for the plaintiff (a small sum under the condition), —probably because they thought that he was to blame for taking unqualified advice.

A New Departure in Medical Defense

There are two societies for medical defense in Great Britain —the London and Counties Medical Protection Association and the Medical Defense Union. For an annual payment of $2.50 these societies undertake to provide legal defense for a physician who may have an action brought against him for anything done in his professional work. Unfortunately, it is not uncommon for unscrupulous or dissatisfied patients to bring action against physicians for negligence in treating them. Such patients usually have no money and obtain the services of some speculative lawyer who will take the case on a contingent fee. Even when the physician wins, he is liable to incur the heavy legal expenses of defending the case, because the plaintiff has nothing. Until the medical protection societies were started, a physician was thus practically at the mercy of poor and unscrupulous patients. If the physician loses the case, all that the societies have done in the past is to pay the cost of the defense, leaving him liable for any damages obtained against him, as well as the costs of the other side. After a discussion extending over several years, the London and Counties Medical Protection Association has made a new departure and has undertaken to pay the costs of the other side in case the doctor loses, as well as any damages obtained against him not exceeding $10,000 in any one year. For these increased benefits it has been found necessary to increase the annual subscription from $2.50 to $5.

PARIS LETTER

(From Our Regular Correspondent)

PARIS, Feb. 24, 1911.

Adult Mortality in France

The government commission on mortality, presided over by Professor Lannelongue, who is also a senator, reports that in France, as in most civilized countries, the adult death-rate is continually being lowered. The death-rate from transmissible and avoidable diseases has become continually smaller, both absolutely and relatively to the general death-rate. The tuberculosis death-rate alone, though it does not appear to be increasing, remains stationary and amounts sometimes to a fifth, sometimes a fourth, of the total death-rate. Prophylactic measures are therefore recommended, especially such as check the progress of alcoholism and give aid to the victims of tuberculosis at the first appearance of symptoms.

An International Sanitary Conference at Paris

The French government has just addressed to the countries of the two continents invitations to take part in an international sanitary conference at Paris next May. The conference was decided on in view of the epidemic of cholera last year in certain parts of southern Italy and the pneumonic plague which is raging in Manchuria, the frightful conditions of which recall the worst days of the epidemic in the Indies. The last sanitary conference on cholera, plague and yellow fever was held Dec. 3, 1903. Seven years constitute, as the government says, a long period to allow the matter to be in abeyance, especially in our days, when the progress of science and the diffusion of methods resulting from it are particularly rapid.

In order to facilitate as much as possible the task of the future conference, the French government has had the bases of the discussion prepared by the permanent committee of the international office of public hygiene (THE JOURNAL, Nov. 21, 1908, p. 1794). This committee, since 1907, when it was formed in Paris, has been accumulating and publishing the most complete information possible on all questions of sanitary organization. As soon as the conclusions of the permanent committee on the subject-matter of the future conference have been formulated they will be communicated to all the governments invited to the conference for their use in preparing their contributions.

A Proposition for the Reform of Medical Education

Dr. Lannelongue, professor at the Faculté de médecine de Paris and senator, has proposed to the senatorial commission of higher education to make the medical teaching body distinct from the examining body, for the following reasons: Medical instructors are overworked and it is important to relieve the professor from the drudgery of examinations which prevent him from doing justice to his pupils or contributing to the advancement of science. An examination conducted by an outsider would necessarily be more impartial. The pupil would not be tempted to try to secure good marks by studying the personal predilections of his professor. Lannelongue believes that it would be easy to secure a corps of competent examiners in the great university centers by utilizing the services of the numerous *agrégés libres.* The *agrégé* professors, it should be explained, are appointed for a period of only nine years. After the lapse of this time they become *agrégés libres;* that is, they no longer form a part of the teaching corps. Their anomalous situation has often aroused keen criticism. In the rôle of examiner they might find the normal employment of their knowledge.

Limitation of the Number of Physicians

At the last meeting of the Association de la presse médicale française the question of the limitation of the number of physicians was discussed. The same question will soon be taken up by the vigilance committee of the Congrès des praticiens. The members present unanimously empowered their delegate to reject the limitation but to demand a due severity in examinations and sufficient preliminary qualifications in the way of general education, such as classical studies, before permitting candidates to undertake medical studies.

Memorial to Dr. Mesny, a Victim of the Plague

The minister of war has just received the report of our military attaché in China in regard to the circumstances of the death of Dr. Gerald Mesny, physician of the colonial troops, who died of the plague at Harbin, January 13, last, and whose name was incorrectly given in the first despatches as Meunier. Dr. Mesny was a professor in the Chinese medical school at Tien-Tsin when the plague broke out in Manchuria. The authorities asked him to organize measures of defense. He did not hesitate to leave his wife and children to put himself at the head of the Chinese physicians, and went to meet his death at Harbin. When stricken with the plague, he gave evidence of real heroism. In an interview with the French consular agent he declared that, according to all probability, he had still two days to live, and added, smiling, "I do not say au revoir but adieu."

The director of the Ecole d'application du service de santé des troupes coloniales, after relating these facts to the students, declared that he had decided that Dr. Mesny's name should be inscribed on the marble tablets of the school devoted to the officers of the sanitary corps of the colonial troops whose death is the result of devotion to duty.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, Feb. 24, 1911.

Personal

Professor Uhlenhuth has accepted a call as director of the hygienic institute at Strasburg.——The report has been repeatedly circulated by the newspapers that Waldeyer contemplates resigning during this year. As I am reliably informed, this statement is not correct. Although the distinguished anatomist enjoys an enviable vigor in spite of his 75 years, nevertheless, it would seem that consideration for the rising generation would justify professors of his age in retiring.

The Plague

According to the latest information, the plague in China is receding and it is to be hoped that Europe in general and Germany in particular will be spared from its visitation. For the present the German government has not seen fit to establish any special regulations aside from the ordinary quarantine requirements for ships. The Imperial Health Council, the *Reichsgesundheitsrat*, met to discuss the question Feb. 14, without adopting any definite measures. No plan has been so far developed by the officials for sending German physicians into the plague district.

Improvement of the "Practical Year"

As you are aware, medical students in Germany after they have passed their state examination are required to spend a year for practical education at the university clinics and hospitals, and are only licensed as physicians when they have successfully complied with this requirement which is certified to by the director of the hospital. This arrangement, which has existed for some years, has shown various defects which have constantly become more evident. During the "practical year" they bear the name of "medical practicants" (*Medizinalpraktikant*). The medical councils (*Aerztekammer*) have considered this matter and have reached the conclusion that the institution must be improved. The difficulty consists essentially in an insufficient opportunity for independent activity, an excessive number and unsuitable selection of the hospitals which are qualified for the reception for practicants, the constantly increasing employment of the medical practicants as assistants, and their insufficient instruction in social medicine. The employment of medical practicants in place of assistants has led to complaints by many hospital directors because on that account a lack of actual assistants has arisen. Many young physicians used to feel the need of supplementing their practical education by service as assistant, for one or more years, but now the medical practicants believe that they have sufficiently fulfilled the demands for practical education by their work as assistants during the practical year. In consequence of these difficulties the minister has required the provincial officers to institute an investigation into the training and work of the practicants and make a report on the matter. There is no doubt that the government will endeavor to remove the causes of complaint.

Official Supervision of Homes for Toilers

An important institution for improving the public health will begin its practical activity in Charlottenburg, March 1. In order to remove housing conditions which are insanitary and unsatisfactory in moral and other respects, an inspection service for all small dwellings in which sleeping rooms exist is to be established. This shall also control the permits for laborers, factory hands, apprentices and servants to sleep in the houses of their employers. For the performance of this service two house inspectors are to be appointed by the city and their number will be increased later. These officials with the aid of two assistants from the housing office are to examine all suspected houses, to ascertain if they meet all sanitary and building requirements and if this is not the case to see that the defects are remedied. An information bureau for dwellings is to be associated with the housing office. This is to make possible a substitute for each dwelling that is found insanitary. Together with the inspection of dwellings and the information bureau, a department for statistics in regard to housing is to be established. If this shows a deficiency of sanitary apartments, the care for housing must be extended and provision must be made for the erection of suitable houses which will assure sanitary dwellings to people of small means. With the establishment of this housing office the city of Charlottenburg has instituted a philanthropic enterprise which may serve as a model.

Cancer Statistics in Bavaria

Bavaria has just published the official statistics with reference to cancer collected in 1909. Dr. Teilhaber of Munich gives some results of the investigation in the last number of the *Münchener medizinische Wochenschrift*. According to the figures cancer of the rectum appears to affect in particular those engaged in office work and professors, and secondarily carpenters and tailors. Teilhaber considers that congestion in the pelvic organs is responsible for this predilection. Cancer of the stomach is especially a disease of the poorer population and particularly in Bavaria the peasant class are especially affected by it. From this Dr. Teilhaber draws the conclusion that advancing civilization cannot constitute a cause for the appearance of cancer, for the Bavarian peasants live under the simplest conditions. Cancer of the face is chiefly found in persons who do work in the open air. The conclusions of the author are of uncertain value because of the relatively small number of cases. Still the material thus obtained must be regarded as valuable since from it, in combination with more like material, it is probable that definite conclusions can be reached.

Cancer Statistics in Baden

On the authority of the Baden National Committee for Cancer Research a few years ago a new census of the cancer patients in Baden was undertaken. The material obtained in this way has been elaborated by Privat-Docent Dr. Werner, an assistant of Professor Czerny of Heidelberg, and he has reached some results which, although they deal with comparatively limited material and must, therefore, be accepted with caution, appear to be of interest in several particulars. The distribution of cancer in the individual communities is shown to differ widely. Werner tries to draw conclusions from this fact with reference to the etiology of cancer and he recognizes five factors: heredity, inbreeding, occupation, mode of life (especially nutrition) and race.

Hereditary taint appears to play no great rôle, according to the Baden statistics, but the author emphasizes the fact that the data do not permit any decisive conclusion on account of their meagerness and uncertainty. Inbreeding seems to have no significance in the etiology of cancer, but more careful study of this question is also desirable. The communities in which consanguineous marriages are common, so far as known to the author, are not the ones in which cancer is specially prevalent. As to occupation, a great increase is found in the groups of men servants and day laborers, without reference to age. Similar conditions in this respect were found by another investigator in the statistics of cancer in the kingdom of Saxony. Nevertheless the author holds this finding of no essential importance in determining the etiology of cancer.

He considers that it would be much more reasonable to determine the occupation in families in which cancer is rare or especially prevalent in order to determine whether occupations which produce certain injuries or which bring the worker in contact with certain objects or animals are responsible for the frequency of cancer or whether certain occupations are frequent among cancer patients because they are chiefly followed in regions where cancer is prevalent. The ordinary differences in nutritive conditions as between city and country, agricultural and manufacturing communities, winegrowing districts and other localities show no corresponding differences in the death-rate from cancer.

As for the contagiousness of cancer, no especial frequency is found in cases where a considerable number of persons live in narrow quarters, from which Werner draws the conclusion that direct contact plays but a slight rôle in the causation of cancer. Neither could a special predisposition of any race be established. The same is true for the influence of the place of residence and the housing conditions. The influence of climate on cancer mortality is also negative. Neither could any parallelism be discovered between the distribution of the higher animal and plant species and the occurrence of cancer, so that the assumption of Behla, which was in itself very unlikely, is shown to be fallacious. The supposition that the parasites of cancer are conveyed by stinging insects is not sustained. No parallel could be traced between the distribution of human and animal cancers.

Altogether, Werner concludes from his statistical investigations that there must be assumed to exist some locally prevalent factors, not connected with the age of the person, which occasion or favor the occurrence of cancer and depend on the character of the locality rather than on that of the inhabitants. As to the question whether the frequency of cancer and the danger of acquiring it are increasing, Werner believes

that we must admit an actual increase in the disease, although much of the increase shown by statistics must be attributed to better diagnosis, greater supervision of the population by physicians, better opportunities for observation in hospitals, etc.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, Feb. 23, 1911.

Unexpected Help for Medical Institutions

The danger threatening the Viennese medical institutions from political parties that wish to control them has been averted, at least for some time, by an unexpected occurrence. The government has come into possession of some 25,000,000 kronen ($5,000,000), as the tax to be paid on the estate left by the late Baron Rothschild on his sudden death quite recently amounts to at least this sum. Out of this tax, the hospital fund must receive 24 per cent., or about 6,000,000 kronen. This will be sufficient to pay the deficit of this fund and also to stop any controversy as to responsibility for hospital relief to the poor, a fruitful source of interference for the above-mentioned political parties. The deceased, a member of one of the wealthiest private banking houses of Europe, has also left liberal legacies to various charitable institutes, so that these at least will have no need to appeal to the public corporations for help; another obstacle for political enterprise.

The Successor of Strümpell: A Recommendation by the Faculty

To-day a meeting of the professors of the medical faculty of Vienna took place, in which a special committee published the names of the professors it recommended as eligible to the appointment to the third medical clinic. Professor von Noorden had studied the problems connected with the affair. When von Strümpell suddenly resigned his post here, and went to Leipsic, in the place of Curschmann, the reasons given for his abrupt termination of an appointment were so serious that a most unpleasant controversy ensued. The medical faculty was justly offended at the manner the professor had been treated by the responsible officials, and for some time the relations between government and university were strained. When in December the possibility of the clinics becoming a domain of political influences was imminent, the faculty refrained from making the necessary recommendation of a competent successor, as it did not want to bind a first-class man to unstable conditions. After certain guarantees had been given by the government concerning the liberty of teaching and the independence of the clinics, the faculty reconsidered its position, and recommended the following candidates, who are named in the order of preference: Prof. Herman Sahli (Berne); Prof. E. von Romberg (at present in Tübingen), and two Austrians, Prof. F. Chvostek (Vienna) and M. Ortner (in Innsbruck). There is a certain tendency in the government circles to exclude candidates from Germany, since there are already several men here from that country, and because of the affair with Strümpell, who also came from that country. It is therefore probable that an Austrian will be appointed, and of the two the better chances are with Ortner.

Miscellany

Symptoms of Exophthalmic Goiter in Pulmonary Tuberculosis.—F. Bialokur noted Basedow symptoms in twenty-seven of 337 patients with pulmonary tuberculosis during 1908, and in twenty-eight in 1909. He tabulates the details of ten typical cases, remarking that the Basedow symptoms must be often overlooked in such cases elsewhere or ascribed to the tuberculous infection. The connection between the Basedow symptoms and the tuberculosis is more than casual, as is shown by the benefit that follows treatment addressed to the exophthalmic syndrome. As this improves, the pulmonary symptoms subside and the patient may be clinically cured. There is probably a vicious circle, the tuberculous toxin exerting an injurious influence on the thyroid, stimulating it to increased secretion, and this secretion may enhance the virulence of the tubercle bacilli, which, in turn, may rouse latent lesions into active processes. In his experience, every patient with exophthalmic goiter was already tuberculous; other physicians seldom examine the lungs with sufficient care with Basedow patients, as their attention is concentrated too exclusively on the exophthalmic goiter. When enlargement of the thyroid is discovered with pulmonary tuberculosis measures to reduce it to normal size should be instituted at once, as thyroid functioning impresses a special character on the course of the tuberculosis. The changes in the lungs are of different kinds, and there may be great destruction, but, as a whole, the lesions are not the most malignant; obstinate diarrhea is the rule; the thyroid is not much enlarged and pronounced exophthalmos is rare; the patients are gloomy and despairing instead of the hopefulness common with tuberculosis. There is generally a tendency to sweats and the temperature is usually subfebrile, the urine normal. It is difficult to find any tubercle bacilli in the sputum, so that the trouble seems to be bronchitis rather than tuberculosis. The overwhelming majority of his patients were women. Pregnancies recurred with remarkably brief intervals, and the sexual instinct was strong and the menses abnormally frequent and profuse. In the ten typical cases described in detail besides the usual strychnin, arsenic or iron treatment, he exposed the thyroid to the Roentgen rays or had it removed. One man of 56 had had the Basedow syndrome and pulmonary tuberculosis for twelve years, and his daughter the same for four. Both were clinically cured by thyroidectomy. Bialokur's article was published in the *Zeitschrift für Tuberkulose*, 1910, xvi, 567.

Social Hygiene in Its Pedagogic Aspects.—A knowledge of the function of reproduction and a proper attitude of mind regarding it must be recognized by educators to be a necessary part of the equipment of every young person for life, says W. S. Hall (*Journal of Preventive Medicine*, February, 1911). Parents and teachers are morally bound to treat all questions of sex in the same simple, straightforward, truthful way that other life problems are treated. Responsibility for instruction of the young in sexual development and sexual right living should rest on parents; but as a rule parents do not discharge this responsibility, and therefore it devolves on the physician and the educator, and the societies formed for the purpose of educating the public on moral and social prophylaxis. The important lesson learned by Hall from years of experience in teaching emphasizes the importance of segregation of the classes to whom he talks. Boy hearers should be separated from men; mothers should be separated from fathers; mothers and daughters should be addressed in separate audiences. The more homogeneous the audience the more definite and positive can the statement of the speaker be. It is easy to see that in an address to a mixed audience of parents and children, sex problems would have to be discussed in a most general and indefinite way. The circumlocutions would have to be so veiled and the allusions so remote that they would be understood only by the most intelligent, and would probably be grossly misunderstood by the less intelligent and experienced. If the audiences were separated into the boys and men, and the women and girls, the situation would be somewhat better, but not wholly corrected. Concerning a division of the audience on age lines, the sexes being mixed, Hall's experience is that a speaker, particularly a physician, can talk much more freely to an audience of mothers than to a mixed audience of mothers and fathers. A frank statement of certain subjects in the daily journal, or in journals of hygiene, is a valuable method of imparting information, as they are read by the individual and here we have segregation carried to its ideal limit. Hall then discusses the matter to be presented to classes of boys or girls of different ages, and refers to the broader range of facts which may obviously be presented to parents. Hall has used three methods of presentation—the biologic, the moral and the heroic. The biologic is the ideal method of presenting the subject of reproduction and sexual life, but is feasible only for the teacher of biology of a high school or college, and is out of the question for social workers, physical directors and public lecturers. The moral method, an appeal, from a moral standpoint, for right living, Hall found to be not effective. The heroic method is based on the human instinct for hero worship. One can get hold of an audience of boys by a discussion of some of the world's great heroes, and will have their undivided, almost painful attention, when he

asks the questions: What is the secret of manhood? And: What can a boy do to grow into the highest type of virile manhood, which alone makes possible heroic deeds? Hall says that the lecturer can answer that question in the last five minutes of a forty-five minute talk, and leave every boy in the audience convinced and determined. He is convinced that incomparably the most effective method of presenting these matters to young people and parents, is a frank presentation of the findings of science. Don't try, he says, to point too many morals. If the presentation has been clear and convincing, the listeners will readily draw their own conclusions and formulate their own morals.

A Method for Determining the Absolute Pressure of the Cerebrospinal Fluid.—M. A. Cassidy and C. M. Page (*Proc. Roy. Soc. Med.*, January, 1911), have devised a simple apparatus for determining the absolute pressure of the cerebrospinal fluid with the escape of only an inappreciable and constant volume of the fluid. It consists of a hollow needle of 1.5 mm. bore, provided with a close-fitting stylet, the pointed ends of both of which are cut at an angle of about 35 degrees. Two cm. from the blunt end of the needle there is a simple cock. Into the lumen of the needle beyond this cock can be fitted a tapped nozzle, which is connected to an open glass tube 18 cm. in length and 15 mm. in diameter by means of rubber pressure tubing 1 meter in length. A wooden clip to which is attached a measuring tape can be fixed to any point of this glass tube. In order to take a reading the following technic is observed: After sterilizing the apparatus the patient is placed on the side with the lumbar spine well flexed, with the cerebrospinal axis horizontal. Normal saline solution at 120 F. is poured into the glass tube and pressure tubing, and the tap on the nozzle is closed when the glass tube is half full of the solution; the wooden clip is then fixed on the glass tube to mark the level of the saline solution. The theca is punctured through one of the lumbar spaces, the needle being introduced exactly in the middle line and perpendicular to the coronal plane; the stylet is withdrawn and the cock is closed as soon as the cerebrospinal fluid appears at the orifice of the needle; not more than a drop or two should be lost. The pressure tubing is then connected to the needle by means of its nozzle, and the glass tube is held so that the level of the fluid in it is at a height above the needle roughly equal to the expected reading. Both the taps, that is, that on the needle and that on the nozzle, are now opened so that the saline solution may be balanced against the cerebrospinal pressure. If the latter is greater than the height of the saline solution, fluid will rise above the level of the wooden clip, and vice versa. The glass tube is quickly raised or lowered, as may be necessary to keep the contained solution at its original level; the vertical height of the clip above the needle will then give the intrathecal pressure in terms of centimeters of normal saline solution. The density of normal saline solution at 120 F. is almost identical with that of water. When proper communication has been established between the saline solution in the tube and the cerebrospinal fluid, a regular rise and fall in the pressure to the extent of about 1 cm. will be observed, synchronous with the respiratory movements; unless this respiratory excursion is present no reading is of value. The method has been used in over sixty cases. The highest pressure observed by Cassidy and Page was 100 cm. saline in a case of cerebral abscess, and the lowest 7 cm. in a case of diabetes insipidus.

Fallacies Regarding the Transmission of Infectious Diseases.—With the establishment of the germ theory and the discovery of certain organisms always present in certain diseases we began to reconstruct our ideas regarding the manner with which these diseases are spread and new ways of prevention and cure are sought. B. R. Rickards (*Quar. Bull., Ohio State Board of Health*, October-December, 1910) says that old ideas in regard to the transmission of infectious diseases are hard to eradicate. Diphtheria, prior to the discovery of the Klebs-Loeffler bacillus, was supposed to have some connection with sewer gas or broken drains, and wherever a case of diphtheria was found a faulty trap or other imperfection was hunted for and usually found. We know now that the diphtheria bacillus is not found in the air or soil of drains. The only significance of the sewer-gas theory is that continually breathing such gas lowers the vitality and renders the person more liable to infection. It is now generally believed that diphtheria is almost always conveyed from mouth to mouth by means of kissing, public drinking cups, spoons, gum, etc. It seems probable that diphtheria is not conveyed by clothing, wall paper or other inanimate objects, except perhaps articles like handkerchiefs. It may be conveyed from persons who are perfectly well, who harbor diphtheria germs in their throats, but who possess sufficient resistance to prevent the development of the disease in themselves. Typhoid fever was formerly supposed to originate from filth such as decaying garbage, etc. This conception contained a grain of truth, but not the whole truth. Filth does serve as a breeding-place for flies, which are active spreaders of disease, including typhoid fever. The disease cannot originate except from a previous case and rural wells are only sources of typhoid when they are contaminated by human excrement from a patient with typhoid fever. It has been believed that street dust infected by spitting, infected rooms, milk from tuberculous cows and the like, are factors in spreading tuberculosis, and this is perhaps true to a certain extent. Experiments conducted by Rickards and others tend to show that heavily-infected sputum is rendered harmless in an apparently short time by the effect of the sun, and that after drying sufficiently so that it can be blown about as dust, the germs will be destroyed. Infected rooms undoubtedly play a larger part, as direct sunlight cannot reach all parts of the rooms and reflected light has a slower destructive action on the germs. The milk from cows is no doubt responsible for some tuberculous infection, but to a lesser degree perhaps than are human sources. The milk becomes infected most frequently from the excrement and it is probable that in babies the infection is most frequently communicated by kissing or by feeding utensils. What has been said regarding these common diseases applies also to such infections as measles, scarlet fever, small-pox, etc. Rickards urges that in the work of combating infectious diseases we should abandon exploded theories and get down to the actual facts and modify our quarantine and other measures accordingly.

Unusual Complications of Chronic Nephritis.—A. Pollak reports some interesting cases in the *Wiener klinische Rundschau*, 1910, xxiv, showing that pleurisy, pericarditis, peritonitis and even meningitis may develop as a complication of chronic nephritis. Also that in the stage before actual uremia, symmetrical fibrillary twitching may be observed or a syndrome suggesting multiple sclerosis and hysteria. In one case acute peritonitis developed in the course of a mild chronic nephritis in a middle-aged man. In another case acute meningitis developed in a woman of 47 with signs of nephritis. He has encountered three cases of the complicating pericarditis. In all the above cases the serous membrane became suddenly affected in the midst of apparent health except for the mild nephritis. All the patients died except one man who passed through two attacks of the pericarditis and succumbed a few months later to a heart lesion. In another case a woman of 56 with chronic nephritis began to notice fibrillary twitching in the extremities. In a few days a typical attack of uremia followed in which the patient succumbed. Another patient was a young woman who complained of headache frequently recurring during the last four months. Physical examination was negative but he urged the patient and her mother to send him some urine for examination. Under tonics the young woman's symptoms subsided and she neglected to send the urine. Nearly a year afterward he was called in again and found the young woman with severe symptoms suggesting multiple sclerosis. Two days after this rapidly fatal uremia cleared up the diagnosis. It is rarely, he says, that chronic nephritis runs its course in this way without attracting attention to the kidneys. If his warnings in regard to urine examination had been heeded, the nephritis might have been detected and treated in time. In another case a little girl grew pale and the medical inspector of the school found dulness over the right apex and râles, and gave directions for general treatment of tuberculosis. He sent

the child to a lung specialist a week later who confirmed his diagnosis, and referred the child to Pollak for a certificate entitling her to a course in a sanatorium for lung affections. Pollak examined the urine and found 2 per cent. albumin with tube-casts and red corpuscles; the child died in six weeks. He comments that this case speaks volumes for the necessity of medical school inspectors confining themselves to mere detection of illness and warning the parents that the child is sick and should be taken to a physician. The physician can then make an examination much more thoroughly than is possible in the school, and institute appropriate measures in time.

Sanitary Food Production.—Declaring that food, though chemically pure, may be sanitarily unfit to eat, H. E. Barnard, State Food and Drug Commissioner of Indiana, in an address delivered before the Association of State and National Dairy Departments, at New Orleans in December, 1910, stated his belief that this fact will be the basis of future food legislation, and that the work of the food departments, commissioners and inspectors will be less and less given to controversial discussions of labels and manufacturers, and instead will be devoted to the promulgation of the old maxim in a new version, "cleanliness is godliness," among food producers and distributors. To him the astonishing thing is that for so many years we have trailed after the milk wagon in search of watered samples, and never entered the dairy to hunt the reason why the infant mortality of our cities is ten times as high among bottle-fed as among breast-fed infants; that we have frantically fought the rainbow-hued demon whose dye-pot made strawberry pop, jellies and confectioneries esthetically attractive, forgetting in the fray that polluted water in the pop bottle is a thousand times more dangerous to the consumer than anilin red, and that rotten fruit is a worse adulterant of jam than an atom of Biebricht scarlet; that we have fought relentlessly the substitution of oleomargarin for butter on the boarding-house table and never made a move to prevent the sale for food of rancid, filthy country butter, infinitely worse for the consumer and a more vigorous competitor of the product of the trained buttermaker than all the oleomargarin factories in the country. The fact faces us that the grocer who is honest but dirty strikes a more direct blow at the health of the community than his competitor, who does not hesitate to sell distilled water for cider vinegar and cotton-seed oil for olive oil, but who in the commission of his crimes sees to it that his hands are sanitarily clean, his goods free from dust, and his clerks undiscased; and that the butcher who sells tuberculous meat is infinitely more dangerous than he who mixes stearin in his lard or puts cracker crumbs in his sausage. The one class robs us of our heritage of health; the other steals but the lining of our pocket-books.

Report of Loomis Sanatorium.—The 1910 report of Loomis Sanatorium, Liberty, N. Y., for the treatment of tuberculosis, shows that 416 patients were admitted during the year and 411 discharged. The physician in chief, in summing up the work of the year, emphasizes the fact, to which attention was called in the report for 1909, of the undoubted relation between the length of stay in the sanatorium and the result of treatment, at least so far as the class of "apparent cures" is concerned. Thus, in 1907, with an average stay in the institution of 31.44 weeks there were 18.80 per cent. of apparent cures; in 1908, with an average stay of 43.09 weeks, the apparent cures were 21.52 per cent.; in 1909, with an average stay of thirty weeks, the apparent cures were 15.61 per cent.; while in 1910 the average stay was 26.62 weeks and the apparent cures amounted to but 12.30 per cent. This relation is also borne out in the class of incipient cases. In 1908, for instance, 72 per cent. of incipient cases were discharged as apparently cured, after an average residence of 25.83 weeks; in 1909, but 43.75 per cent. after a stay of 19.62 weeks, and about 50 per cent. in 1910 after an average residence of 19.66 weeks. It is found that this applies not only to the immediate results, but has a bearing on the ultimate results after the patient leaves the sanatorium. Forty-nine patients received tuberculin treatment in addition to the other measures, thirty-three of these for a period exceeding ninety days. One died. All the rest were improved, arrested or apparently cured. Following out the plan conceived and mentioned in the report for 1909, a more scientific method of feeding the patients has been followed during the past year. Careful weighing of the food, and computation of the chemical constituents, and more extended experience have permitted the division of the patients into three classes with regard to their diet, with the result of securing a diet more nearly adapted to the individual requirements, with consequent greater benefit to the patients. The report still further confirms the conclusion that the sanatorium treatment of tuberculosis presents great advantages over any other plan.

Pregnancy After Nephrectomy.—At the recent annual meeting of the French Société d'obstétrique, de gynécologie et de pédiatrie, several members reported cases of apparently normal pregnancy in women who had had one kidney removed on account of tuberculosis. Pinard, Pousson and Hartmann reported experiences in this line, the total on record, according to them, being now 113 cases in which an operation on the kidney for tuberculosis or other cause was accompanied or followed by a pregnancy. In the thirty-five cases in which the operation was done on the pregnant woman, the pregnancy did not seem to be affected in any way and it did not render the prognosis of the kidney operation any more serious. In seventy-four other cases the women became pregnant after the nephrectomy. With the exception of one woman who died from eclampsia and another from renal insufficiency during the puerperium, the single kidney answered every purpose, although it was itself diseased in a few cases and delivery had been difficult in a few others on account of contracted pelvis or other cause. In three cases the pregnancy followed nephrotomy; it terminated in abortion in one case but the other patients had two and three normal pregnancies. In another case a normal pregnancy followed bilateral decapsulation of the kidney. The conclusions were that even when the kidney has been removed for tuberculosis, if the urine is free from bacilli, marriage may be permitted to girls. Pousson stated that fifty-nine out of sixty-five women on whose kidneys he had operated have passed through a normal pregnancy since and some three pregnancies. In seven others there was abortion. In every instance the puerperium was free from complications, and most of the women could nurse their children, one becoming a professional wet-nurse. The children were all healthy at birth and to date, except that one has died of whooping-cough and another at the age of 15 months of tuberculous meningitis.

Conservative Treatment of Total Rupture of Lower Segment of Uterus.—A. Boero, Buenos Aires, in a communication to the *Semana Medica*, 1910, xvii, 1657, reviews the indications in such cases and reports five cases from his own experience in which notwithstanding this serious complication of childbirth all the patients but one recovered. The aim is to refrain from anything that might increase the shock from which the woman is suffering. The uterine artery is rarely involved in the laceration and what hemorrhage there is comes from the site of the placenta. When there is no shock he removes the uterus at once, but in the severer cases he tries to tide the patient past the shock period and give her time to recuperate. A month or two later it is a comparatively simple matter to remove the whole or part of the uterus. The fetus is nearly always dead after such a rupture, he says, and it should be extracted with a mutilating operation if necessary to get it and the placenta out of the way as rapidly as possible, without version. There should be no rinsing out of the uterus or vagina. The obstetrician's hand is introduced and the lower lips of the upper segment are drawn together and held between the thumb and index finger and thus worked down inside the lower, torn-off segment; the fingers are then replaced by forceps and the upper segment is securely fitted into the lower segment, thus shutting off all communication between the vagina and uterus and the peritoneal cavity, except for a small tunnel made in the broad

ligament for drainage, through which a wick of gauze is pushed. The lower segment and vagina are then packed with gauze. The obstetrician must realize that his hand is the vulnerable point in the procedure and that on his sterilization of his hands depends the outcome of the case. In the one fatal case in his experience several hours had elapsed after the rupture before the patient was brought to the clinic and various forceps applications had been made.

Loss of Appetite in Tuberculosis.—B. Schleisiek contributes an article on this subject to the *Zeitschrift für Tuberkulose* in which he states that the loss of appetite with a tuberculous pulmonary process may be the result of the action of toxins or of a latent tuberculous process in the cecum. The latter is more common than generally recognized; it may be discovered by systematic palpation, eliciting mild pain in the region. The diagnosis is confirmed by an injection of tuberculin which induces a typical focal reaction at this point. He adds that the tuberculous process in the cecum once diagnosed, operative treatment should follow at once, as tuberculosis of the intestines seldom heals spontaneously and in the appendix practically never. The operation is simple and easy at this early stage. Persistent lack of appetite may be the only sign of the intestinal process for a long time. Even the toxic anorexia may be favorably influenced by tuberculin treatment. The abnormal secretory conditions in the stomach return to normal under the influence of the tuberculin.

Soil Pollution by Hookworm.—Stiles and Gardner (Bulletin U. S. P. H. and M.-H. Service) have conducted experiments for the purpose of determining the length of time hookworm eggs may retain their vitality in the soil and under various conditions of drying and temperature. The soil under and around the privy is not entirely free from infection with hookworm even five months after the privy was last used, although the infection is considerably reduced at the end of four months. When the fecal material has undergone decomposition under water most of the hookworm eggs are dead in about ten weeks, though some still survive but they would probably all be dead in three months. It would not be safe to use such material as a fertilizer in less than three months. It has been shown that chlorid of lime fails to kill hookworm eggs in twenty-two to forty hours. The eggs of the typhoid fly and other species of fly are still capable of development after that length of time, and the flies are capable of reaching the open air even when material in which they breed has been buried under from 17 to 72 inches of sand.

American Achievements in the Tropics.—In declining an invitation to attend a banquet President Taft made this fine tribute: "We have real ground for national pride in the fact that England, France, Germany—Germany not so much so—and Holland have been engaged in the colonial business in the tropics for 100 years, some of them 200 years, and yet it remained for American physicians, and especially the physicians in the army to discover more things in the ten years since the Spanish-American War than were discovered in the whole two centuries before that time; and if nothing else justified the Spanish-American War, the discoveries of the American physicians since that time—what I may term the sequence of the war—were ample to justify the expenses of that war to ten times over. It is a real record of achievement of a national character that everyone who understands it must dwell on with sincere pride."

Marriages

HENRY FRANCIS BALLARD, M.D., to Miss Louise Myers, both of Chenoa, Ill., February 22.

JOHN STEPHAN NAGEL, M.D., Chicago, to Miss Evelyn Morrison Robinson of New York City, March 7.

EDWARD MONTGOMERY WELLBERY, M.D., to Miss Rosemary Carney, both of Brooklyn, N. Y., February 28.

BLEEKER J. KNAPP, M.D., Evansville, Ind., to Miss Eleanor Dee Gordon of Madisonville, Ky., recently.

MARTIN WASHINGTON YENCER, M.D., Richmond, Ind., to Miss Jeanette Hill, at Richmond, February 23.

PRESTON WORLEY, M.D., Clovis, N. Mex., to Miss Ethel Audrey Kennedy of Youngstown, O., February 28.

NATHANIEL H. MANRING, M.D., Elwood, Ind., to Mrs. A. C. Gordon of Indianapolis, at Louisville, Oct. 31, 1910.

GEORGE GRAHAM HUNTER, M.D., Los Angeles, Cal., to Miss Grace Geraldine Hildreth, at Los Angeles, Dec. 20, 1910.

GEORGE ALFRED LAWRENCE, M.D., to Mrs. Julia W. M. Curtis, both of New York City, at Wilmington, Del., February 14.

FRANK LOSSING CARPENTER, M.D., Berkeley, Cal., to Mrs. Mary Saylor Bingham of Glens Falls, N. Y., at Oakland, Cal., February 1.

Deaths

Henry Pickering Bowditch, physiologist of world-wide fame, formerly dean of Harvard Medical School, died at his home in Jamaica Plain, Boston, March 13, aged 70. He was graduated from Harvard University with the degree of A.B. in 1861, and served during the Civil War in the Massachusetts Volunteer Cavalry, attaining to the rank of major. At the close of the war he entered Harvard Medical School and was graduated from that institution in 1868. He then pursued studies in his chosen branch of physiology for three years in Germany, and on his return to the United States in 1871 was made assistant professor of physiology in Harvard Medical School. From 1876 to 1903, he was professor of physiology in that institution, dean of the school from 1883 to 1893, and George Higginson professor of physiology from 1903 to 1906. He was given the honorary degree of D.S.C. by the University of Cambridge in 1898, and the degree of LL.D. by Edinburgh University in 1898, Toronto University in 1903, and the University of Pennsylvania in 1904. He was a member of the American Medical Association, American Academy of Arts and Sciences, National Academy of Sciences, American Philosophical Society, American Society of Naturalists, and American Physiological Society. In 1896 and 1900 he served as vice-president of the American Association for the Advancement of Science, and was also a corresponding member of the British Association for the Advancement of Science. Dr. Bowditch was a prolific writer on his specialty of physiology. Aside from his eminence as a scientist, Dr. Bowditch endeared himself to all who knew him by his character as a man; especially to his students was he the ideal of the scholar, the man, and the courteous, polished gentleman, and his influence in arousing in them a desire for thorough work and for living up to the highest ideals of the profession was great and permanent.

Daniel Augustus Currie, M.D. Buffalo (N. Y.) Medical College, 1864; a member of the Medical Society of the State of New Jersey; and of the Association of Military Surgeons of the United States; past president of the Alumni Association and for five years a trustee of the university; one of the organizers of the Englewood, N. J., Hospital; a member of the operating staff of the Hackensack Hospital; major-surgeon of the Fifth Infantry, N. G. N. J., and lieutenant colonel of the Second N. J. Infantry, U. S. V., during the Spanish-American War; local surgeon of the Erie Railroad; first mayor of Englewood, and afterward reelected to that office; died at his home, February 28, from cancer, aged 70.

Eugene Kingman, M.D. College of Physicians and Surgeons, New York City, 1870; a member of the American Medical Association, and Boston Society of Psychiatry and Neurology, and president of the Rhode Island Medical Society in 1910; neurologist to the Rhode Island Hospital; organizer and first chief of the staff of the Providence Lying-In Hospital; a charter member and first president of the Rhode Island Hospital Club; died at his home, February 26, from uremia, aged 67.

Albert Joseph Erdman, M.D. Jefferson Medical College, 1873; a member of the Medical Society of the State of Pennsylvania, and formerly president and treasurer of the Lehigh County Medical Society; for seven years a member of the local pension examining board; for several years school director of Allentown, and for thirteen years physician to the Lehigh County Almshouse; died at his home in Allentown, March 1, from cerebral hemorrhage, aged 58.

Bartlett Norton Torrey, M.D. Washington University, St. Louis, 1874; a member of the American Medical Association; formerly local surgeon of the Burlington System, and vice-president of the Cottage Hospital, Creston, Ia.; superintendent of the Omaha General Hospital in 1905 and 1906; for the last

two years a resident of Detroit; died in Harper Hospital, March 2, from nephritis following prostatectomy, aged 66.

Skiles McKechan Woodburn, M.D. University of Pennsylvania, Philadelphia, 1872; a member of the American Medical Association; and for many years inspector of the State Board of Health for Bradford County; for nine years local pension examiner; a member of the board of health, town council and board of education of Towanda, Pa.; died at his home, February 22, from pneumonia, aged 60.

John Williams Coe, M.D. Johns Hopkins Medical School, Baltimore, 1898; a member of the American Medical Association; and New York Academy of Medicine; instructor in clinical pathology in Cornell University Medical College; and physician to the skin department of the Presbyterian Hospital, New York City; died at that institution, March 6, from pneumonia, aged 38.

Daniel Maynard Burgess, M.D. New York University, New York City, 1852; a member of the American Medical Association; surgeon of the steamship *Atlantic* in 1856; health inspector for the United States government in Cuba from 1874 to 1898; an authority on yellow fever; died at his home in New York City, March 1, from pneumonia, aged 82.

Oswald Warner, M.D. College of Physicians and Surgeons, New York City, 1854; a veteran of the Civil War; formerly assistant on the medical staff of the New Jersey State Hospital, Morris Plains; for several terms president of the District Medical Society of Passaic, N. J.; died in Newark, February 20, aged 77.

Theodore Bacmeister, M.D. Homeopathic Medical College of Pennsylvania, Philadelphia, 1856; a pioneer practitioner of central Illinois; professor of materia medica and therapeutics in Hahnemann Medical College, Chicago, in 1869 and 1870; died suddenly at his home in Toulon, Ill., March 8, from angina pectoris, aged 81.

William Wheeler Hewlett, M.D. Bellevue Hospital Medical College, 1869; a member of the Medical Society of the State of New York; formerly president of the Suffolk County Medical Society; twice president of Babylon village and twice health officer; died at his home, March 5, from heart disease, aged 63.

George Duffield Stewart, M.D. Detroit (Mich.) Medical College, 1878; sheriff of Wayne County, Mich., in 1898 and 1899; formerly city physician of Detroit and physician of Wayne County; afterward a resident of Mt. Clemens; died at his home in that place, March 7, from nephritis, aged 55.

Girard Bryce Edwards, M.D. Ohio Medical University, Columbus, 1905; a veteran of the Spanish-American War; of Cheraw, Colo.; formerly of Clearfield, Pa.; and jail physician of Clearfield County; died at his home, March 1, from tetanus following an injury to the left ankle, aged 35.

Lowrie Payne Hapgood, M.D. Western Pennsylvania Medical College, Pittsburg, 1897; a member of the American Medical Association; formerly president of the school board of Bedford; died at his home in South Side, Pittsburg, March 6, from pneumonia, aged 34.

John T. Wilkins, M.D. Jefferson Medical College, 1843; University of Maryland, Baltimore, 1851; a member of the Northampton County (Va.) Medical Society; died at his home in Vaucluse near Eastville, Va., Nov. 16, 1910, from senile debility, aged 90.

Leonidas E. Best (license, Ontario, 1865); formerly of Grand Rapids, Mich.; for two terms coroner, and a member of the board of supervisors of Kent County; died at the home of his daughter in Salt Lake City, February 28, from cerebral hemorrhage, aged 66.

John S. Boyd, M.D. University of Pennsylvania, Philadelphia, 1870; superintendent of admission of Girard College, Philadelphia; and connected with the Girard estate for twenty-seven years; died at his home, March 6, from pneumonia, aged 62.

William T. Carpenter, M.D. University of Nashville, Tenn., 1864; of Iron Mountain; a veteran of the Civil War, and one of the founders of the Ishpeming Hospital; a member of the Michigan State Medical Society; died in Maitland, Fla., March 6, aged 73.

William A. Whitlock, M.D. University of Tennessee, Nashville, 1885; of Ukiah, Cal.; died in St. Winifred's Hospital, San Francisco, February 26, from brain disease following an infection received during an operation four months before, aged 58.

George Delos Coe, M.D. Eclectic Medical Institute, Cincinnati, 1872; a veteran of the Civil War; for several years city physician of Carthage, Mo.; died at his home in San Francisco, February 5, from acute intestinal disease, aged 73.

Alfred Lewis Wolfe, M.D. Washington University, Baltimore, 1877; a member of the American Medical Association; for several years a practitioner of Elkton, Va.; died at his home in Roanoke, Va., March 2, from tuberculosis, aged 57.

Thomas R. Mask, M.D. Leonard School of Medicine, Raleigh, N. C., 1889; an esteemed colored practitioner of Wilmington, N. C.; and a member of the New Hanover County Medical Society; died at his home, February 19, aged 48.

James Mooney, M.D. Detroit (Mich.) Medical College, 1877; a member of the American Medical Association, and Panhandle Medical Association; died at his home in Wellington, Tex., Dec. 4, 1910, from pneumonia, aged 58.

James B. Judson, M.D. Homeopathic Hospital College, Cleveland, O., 1876; a veteran of the Civil War, and a practitioner since 1863; died at his home in Springport, Mich., January 21, from cerebral hemorrhage, aged 66.

J. A. Parsons, M.D. Atlanta (Ga.) Medical College, 1884; of Bowersville; a member of the Medical Association of Georgia; died in the Grady Hospital, Atlanta, February 25, from cerebral hemorrhage, aged 49.

Elijah B. Woolston, M.D. University of Pennsylvania, Philadelphia, 1854; a member of the Medical Society of New Jersey; died at his home in Marlton, Dec. 17, 1910, from cerebral hemorrhage, aged 77.

Colin Bancroft McKenzie, M.D. University of Michigan, Ann Arbor, 1891; acting assistant surgeon U. S. P. H. and M.-H. Service; died at his home in Harbor Beach, Mich., March 6, from heart disease, aged 50.

M. Duke Kimbrough, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the Medical Society of the State of North Carolina; died at his home in Mocksville, Nov. 26, 1910, aged 72.

Robert W. Joyner (license, North Carolina); a member of the American Medical Association and Seaboard Medical Association; died at his home in Woodland, January 11, from myocarditis, aged 70.

Frederick Howard Files, M.D. Medical School of Maine, Brunswick, 1888; a member of the South Dakota State Medical Association; died at his home in Madison, March 1, from pneumonia, aged 48.

King Holt, M.D. Tulane University, New Orleans, 1871; of Baton Rouge, La.; for several years a sanitary officer of the United States government in South America; died at his home, February 18.

Lewis Nathaniel Howard, M.D. Homeopathic Medical College of Missouri, St. Louis, 1870; a Confederate veteran; died at his home in Indianapolis, February 23, from interstitial nephritis, aged 73.

Charles Austin Jennings, M.D. Starling Medical College, Columbus, O., 1889; formerly of Delevan, Ill.; died at the home of his aunt near Olathe, Kan., February 21, from tuberculosis, aged 43.

John P. Johnston, M.D. Jefferson Medical College, 1879; a member of the West Virginia State Medical Association; died at his home in Wellsburg, March 6, from ptomain poisoning, aged 55.

Edmund Roy Gustin, M.D. University of Buffalo, N. Y., 1893; of Harrison Valley, Pa.; coroner of Potter County in 1895; died in the Williamsport General Hospital, February 9, aged 30.

Augustine Gandier, M.D. Queen's University, Kingston, Ont., 1890, and gold medalist of his year; M.R.C.S., L.R.C.P., L.S.A., London; died at his home in Sherbrooke, Que., Dec. 15, 1910, aged 45.

Charles Lisle Bond, M.D. University of Buffalo, N. Y., 1903; a member of the Medical Society of the State of New York; died at his home in Valois, February 25, from pneumonia, aged 38.

Frank J. Maschek, M.D. Rush Medical College, 1882; formerly a member of the American Medical Association; died at his home in Chicago, February 10, from cancer of the tongue, aged 50.

Lonnie Ray Wood, M.D. Vanderbilt University, Nashville, Tenn., 1910, and recipient of the Founder's Medal; died at his home in Attalla, Ala., February 9, from pneumonia, aged 23.

Oscar W. Roberts (license, Arkansas, 1907); an eclectic practitioner of Reyno; is said to have been killed by a blow from the mace of the city marshal of Reyno, Dec. 5, 1910, aged 26.

William B. Hart, M.D. University of Buffalo, N. Y., about 1846; for nearly sixty years a practitioner of McHenry County, Ill.; died at his home in Greenwood, February 19, aged 99.

Washington Jackson Caldwell (license, Tuscaloosa County, Ala.); a Confederate veteran and one of the oldest practitioners of Tuscaloosa; died at his home, February 28, aged 81.

Addison Wilson Bare, M.D. University of Louisville, Ky., 1860; a member of the Indiana State Medical Association; died at his home in Bryantsville, February 27, aged 84.

Merrill James Galloway, M.D. Philadelphia University of Medicine and Surgery, 1874; died at his home in Philadelphia, February 28, from heart disease, aged 72.

Isaac M. McBride, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1877; died at his home in Rugby, N. Dak., March 1, from tuberculosis of the lungs, aged 56.

Maria Stewart Loughborogh Edwards, M.D. American Medical Missionary College, Chicago, 1899; formerly of Moline, Ill.; died in St. Helena, Cal., February 28.

Thomas A. Andrews, M.D. Jefferson Medical College, 1868; a Confederate veteran; died at his home in Seagoville, Tex., January 26, from pneumonia, aged 64.

George E. Williams, M.D. Medical College of Virginia, Richmond, 1902; formerly of Richmond; died at his home in Pearisburg, Va., February 21, aged 35.

Francis Marion Moore, M.D. Rush Medical College, 1876; Kansas City (Mo.) Medical College, 1879; died at his home near Perry, Mo., February 17, aged 55.

Edmon C. Waltersdorf, M.D. Hahnemann Medical College, Chicago, 1881; died at his home in Detroit, March 5, from accidental gas asphyxiation, aged 58.

L. B. Chilton, M.D. Shelby Medical College, Nashville, Tenn., about 1860; died at the home of his niece in Guthrie, Ky., January 5, from nephritis, aged 72.

Valentine Fritts, M.D. Kansas City (Mo.) Hospital College of Medicine, 1885; died at his home in Luray, Kan., February 5, from pneumonia, aged 61.

William C. Moughon, M.D. University of Louisville, Ky., 1876; died at his home in Wills Point, Tex., March 2, from laryngeal tuberculosis, aged 56.

John Biggs Standlee, M.D. American Medical College, Eclectic, St. Louis, 1904; died at his home in Peoria, Ill., February 17, from tuberculosis, aged 33.

Herschel Josephus Logan, M.D. University of the South, Sewanee, Tenn., 1897; died at his home near Plains, Ga., February 26, aged about 40.

George Davis (license, Iowa, years of practice, 1886); of Canton, Ia.; died at the home of his brother in South Garry Owen, February 9, aged 58.

Thomas Blackwood, M.D. Jefferson Medical College, 1874; died suddenly at his home in Flushing, O., February 20, from heart disease, aged 62.

John B. Hollingsworth, M.D. Starling Medical College, Columbus, O., 1865; died at his home in Quaker City, O., January 16, aged 78.

Eugene Orville Bardwell, M.D. University of Buffalo, N. Y., 1879; died at his home in Emporium, Pa., Jan. 4, 1910, from pneumonia, aged 55.

Francis J. J. McHugh, M.D. Detroit (Mich.) College of Medicine, 1889; died at his home in Detroit, February 25, from pneumonia, aged 50.

John E. Sommers, M.D. Eclectic Medical Institute, Cincinnati, 1892; died at his home in North Baltimore, O., February 26, aged 56.

Thomas Crosgrove, M.D. Rush Medical College, 1869; died at his home in Hubbard, Ia., February 18, from cancer of the face, aged 69.

N. L. Holt (license, Texas, 1907); died at his home in Chillicothe, February 22, four days after an operation for appendicitis, aged 36.

Lewis Addison Fairchild, M.D. Rush Medical College, 1890; died at his home in Peru, Neb., February 22, from diabetes, aged 62.

Charles J. Sherer (license, Oklahoma, Act of 1908); died suddenly at his home in Kent, Oct. 21, 1910, from heart disease.

C. Almon Paul, M.D. Hahnemann Medical College, Chicago, 1889; died at his home in Solon, Me., February 22, aged 57.

Thomas E. Tribble, M.D. University of Tennessee, Nashville, 1853; died at his home in Bloomfield, Mo., February 23.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

COMPRESSED OXYGEN

Report of the Council on Pharmacy and Chemistry

The referee of the Council appointed to report on the composition of compressed oxygen as found on the market and to make recommendations as to its inclusion with New and Nonofficial Remedies submitted the following report:

The Section on Stomatology at the 1909 session of the American Medical Association having recommended the inclusion of compressed oxygen with the U. S. Pharmacopeia, the Council voted to describe this product with New and Nonofficial Remedies until such Pharmacopeial recognition had been secured. This action having been decided on, it became necessary to provide standards of purity for this substance. Correspondence both with firms who make the product as well as with those who use it gave the referee of the Council little information as to what degree of purity should be required for this substance, and it therefore became necessary to examine the product as it was found on the market.

Professor Warren R. Smith of Lewis Institute, Chicago, kindly offered to cooperate with the Council and to make an examination of this product. The referee herewith transmits the very thorough report regarding the composition of commercial compressed oxygen which has been made by Professor Smith in collaboration with Edwin D. Leman. The referee recommends that the Council express its appreciation for the work and that it request publication of the report in THE JOURNAL. The referee further recommends that the description of compressed oxygen submitted herewith be adopted for inclusion with New and Nonofficial Remedies.

This report was adopted by the Council and in accordance therewith the examination of Smith and Leman is published below and the description of compressed oxygen appears with New and Nonofficial Remedies on another page of this issue of THE JOURNAL.

W. A. PUCKNER, Secretary.

The Purity of Compressed Oxygen

PROF. WARREN R. SMITH AND EDWIN D. LEMAN

We have recently examined three specimens of commercial oxygen, purchased in the open market, with the results shown in the accompanying table.

Maker	Chicago Oxygen Gas Co., Chicago		Ohio Chemical and Mfg. Co., Cleveland		S. S. White Dental Mfg. Co., Philadelphia	
Per cent. oxygen	94.78	94.80*	97.84	97.85*	96.84	96.76*
	94.78	94.80†	97.84	97.86†	96.84	96.93†
Per cent. nitrogen[1]	5.22	5.20*	2.15	2.16*	3.09	3.17*
	5.22	5.20†	2.14	2.16†	3.09	3.00†
Potassium iodid test	Negative.		Negative.		Negative.	
Per cent. carbon dioxid.	Negative.		Negative.		0.06	0.07*
Carbon monoxid methane, etc.	Negative.		Negative.		Negative.	

1. That is, not absorbed by potassium pyrogallate.
* Smith.
† Leman.

The gas from the Chicago Oxygen Co. was claimed to be under a pressure of 16 atmospheres. The amount of nitrogen found in this sample is just about that which would be present if pure oxygen were forced into a container filled with air under one atmosphere pressure until a pressure of 16 atmospheres was reached. The other samples were stated to be under a pressure of 1,600 lbs., so that the amounts of nitrogen found cannot be accounted for by a similar hypothesis.

The potassium iodid test mentioned in the table consisted in passing from 2 to 4 liters of the gas through a solution containing starch and potassium iodid. A negative result in this test shows that the gas is free from chlorin, ozone, oxids of nitrogen, etc. The negative results for carbon dioxid mean that not more than a slight opalescence was obtained by passing 2 to 4 liters of the gas through a solution of barium

hydroxid. The carbon monoxid test was made by passing the gas through alkali to remove all carbon dioxid, then over heated platinum, and finally through barium hydroxid solution. A negative result here shows freedom from carbon monoxid, methane and other hydrocarbons.

Shot-Gun Prescriptions and Shot-Gun Specialties Combined

A physician in a small town in Nebraska writes: "In looking over a prescription file not long ago I found a prescription which I copied and am sending to you. It is a good example of shot-gun prescribing. I do not give the name of the prescriber, and you will please not mention from whence this comes. The doctor who wrote this has had about ten years' experience."

Here is the prescription given exactly as transmitted by our correspondent:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	ʒi
Bromoform Bronchial Anodyne	ʒii
Syrup Cocillana Comp. q. s. ad	ʒvi

Teaspoonful every two or three hours.

It is evident that the prescriber is an eclectic. As a matter of fact, in a second letter from the physician who forwarded the prescription, we are informed that the prescriber is a graduate of an eclectic institution not a thousand miles from where he practices. The "Sp" in the prescription does not mean "Spiritus," but specific tincture. The prescriber is an advocate of specific remedies, one of which should fit the condition, but he is broad-minded enough to call help from the outside, and so adds fifteen other remedies to the specific selected, including alcohol. The inability of one mind to remember all the ingredients of so complex a mixture will explain the fact that ipecac is duplicated, occurring both as a specific tincture and as an ingredient of Bromoform Bronchial Anodyne. The latter, the manufacturers tell us, contains in one fluidounce:

Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.

Syrup Cocillana Comp., one of the "elegant specialties" of Parke, Davis & Co., of which they certainly ought to be very proud, contains, we are told, in one fluidounce:

Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Syrup of squill comp.	24 min.
Cascarin, P. D. & Co.	8 grs.
Menthol	8/100 gr.

This "elegant specialty" of Parke, Davis & Co. is not only a shot-gun prescription, but has as one of its ingredients a mixture itself containing three ingredients, namely: Syrup Squill Comp. (Coxe's Hive Syrup), making ten in all—a beautiful example of scientific pharmacy.

We wonder if our eclectic brother really appreciated that his prescription, written out, would be as follows:

Sp. sticta	Gtt xv
Sp. ipecac	Gtt x
Sp. bryonia	Gtt x
Sp. macrotys	ʒi
Alcohol	5 per cent.
Bromoform	8 drops
Ipecac	½ gr.
Ammonium bromid	24 grs.
Benzoin	1 gr.
Alcohol	5 per cent.
Heroin hydrochlorid	8/24 gr.
Tinct. of euphorbia pilulifera	120 min.
Syrup of wild lettuce	120 min.
Tinct. of cocillana	40 min.
Fluidextract of squill	60 min.
Fluidextract of senega	60 min.
Antimony and potassium tartrate	1 gr.
Cascarin, P. D. & Co.	8 grs.
Menthol	8/100 gr.

To use a slang expression, this is certainly going some!

Correspondence

Certified Butter in California

To the Editor:—Certification of butter in California was developed as an outgrowth of a series of experiments carried on in the laboratory of applied hygiene of the University of California by Mr. James M. Stephenson and myself. These experiments were undertaken to determine the need for municipal control of the butter supply of the city of Berkeley, and developed the presence of tuberculosis in much of the high-grade butter tested.

A review of the federal literature on the vitality of typhoid and tuberculosis bacilli in butter showed that previous experiments had been carried on with sweet cream butter. We therefore carefully followed the commercial process of souring and churning previously pasteurized cream. The cream samples were inoculated at the time of churning with pathogenic organisms, and the resulting butter was examined directly, plated and inoculated into guinea-pigs intraperitoneally.

Our results in brief were as follows:

Typhoid bacilli were recovered during the fourth week from endo-plates inoculated from broth subcultures of butter samples.

Diphtheria bacilli were recognized in smears made from blood-serum tubes inoculated with butter samples 26 days old, and guinea-pigs showed characteristic lesions at autopsy when inoculated from subcultures on blood-serum of butter 8 days old.

Generalized tuberculosis developed in guinea-pigs inoculated with butter 2 weeks old which had been contaminated at the time of churning by a small quantity of feces from a cow with tuberculosis.

In addition, generalized tuberculosis developed in guinea-pigs inoculated with three out of five high-grade butters obtained in open market. One of these had been intended as a control, as the butter was supposed to be made from pasteurized cream; but investigation revealed that not all of the cream coming to the butter factory was pasteurized.

Having been satisfied as to the need for pasteurized cream butter, the next step was the development of municipal butter control. For this purpose a score card for butter factories was devised on the basis of the federal score card for city milk plants, and a score card for butter which was in effect an extension of the present federal butter card. One of these cards gave due credit for pasteurization apparatus and its use, and the other gave ten points for a butter which would be Storch-test positive, showing that the cream had been heated to 80 C. It was also planned that butter factories where pasteurization was practiced might designate their product "inspected butter," under the supervision of the Berkeley Board of Health.

These points were incorporated in an ordinance governing the sale of milk products which was then submitted to the Board of Health, and by it recommended to the city council for passage.

A bill was also prepared and submitted to the California legislature, giving county medical milk commissions the authority to certify butter as free from pathogenic organisms, if the butter in question complied with regulations of the commission. The bill further penalized the use of the term "certified butter" without the authority of a medical milk commission. This bill has passed both houses of the present legislature, and the Milk Commission of the Alameda County Medical Association has agreed to adopt regulations for certified butter based on the pasteurization requirements as found in the milk-products ordinance of Berkeley.

The plan is not extreme, nor does it work a hardship on the producer. All butter in Denmark must be made from pasteurized cream, and it seems inconceivable that we have hitherto bent all our energies toward certified milk production and allowed this menace to our later years to persist without legislative correction.

JOHN NIVISON FORCE, M.D., M.S.,
Lecturer in Hygiene, Univ. of California, Berkeley, Cal.

The Philadelphia Idea as to Medical Teaching

To the Editor:—In THE JOURNAL, February 25, p. 608, under the above heading, there is the following extraordinary statement, by Prof. H. A. Hare, of Philadelphia: "As a matter of historical fact, Jefferson Medical College was the first medical institution in America to establish clinical teaching."

Now, "clinical teaching" is as old in this country as medical colleges; for, at the very beginning of the Philadelphia Medical College (University of Pennsylvania), we find that such instruction was given the students in the Pennsylvania Hospital. The first medical diploma, that of John Archer, of Maryland, (1768), is signed by "Thomas Bond, Collegii & Academ. Curator et Praelec. Clinicus" (clinical lecturer), with the following endorsement: "Fidem facio Virum ornatum Joannem Archer Praelectionibus Clinici et Praxi in Nosocomio Philadelphiense interfuisse et Fructus Diligentiæ suae uberrime consecutum fuisse."

The younger Wiesenthal, of Baltimore, describes these clinics in letters to his father, while a medical student in Philadelphia, and the elder Wiesenthal (a most competent judge) speaks highly of Bond's qualifications for the task. The medical histories, as Mumford and Packard, show that these Philadelphia clinics were "rich and abundant."

Nor were the Boston, New York and Baltimore schools without their clinics. The New York Hospital was available from 1807 on, and the Massachusetts General Hospital was opened in 1821. In Baltimore, during the period from 1807 to 1823, clinical lectures were given by Davidge, Potter, William Gibson, Pattison, George Frick, the oculist (and author of the first American work on the eye) and others, at the Maryland Hospital, on Broadway, at the City Almshouse Hospital, on Harvard Street, and at Dr. Gibson's private hospital.

"As a matter of historical fact," however, the first medical school in the country to have its own hospital was the Department of Medicine of the University of Maryland. This was opened Sept. 20, 1823, in a building, especially erected for the purpose, just across the street from the medical college. It had at first four wards, one being for the eye.

Jefferson Medical College was founded in 1824, but the course of lectures did not begin until 1825. I have seen somewhere a statement by the late Prof. Samuel D. Gross, similar to that of Professor Hare, that Jefferson Medical College was the first in this country to establish a college hospital, which it did in 1825.

EUGENE F. CORDELL, M.D., Baltimore.
Professor of the History of Medicine, Univ. of Maryland.

Incomes of Physicians

To the Editor:—I enclose a newspaper article purporting to be an abstract of the address of Dr. H. W. Wiley of the Department of Agriculture. I have marked a paragraph in which he is quoted as saying: "There are 120,000 physicians in this country—120,000 men living on princely salaries because we ignore the possibility of our losing our health."

This article has been published broadcast and will give the public another wrong impression of our profession. People already think that physicians charge too much and this only adds to the false ideas as to the income of a medical man. Dr. Wiley knows that the average income of physicians in the United States is less than $1,000 a year. A princely salary, indeed! The physicians of this country are having a hard enough time to get along without such statements being made—false statements at that. The American Medical Association should take some action to contradict such statements.

F. E. WALLACE, M.D., Pueblo, Colo.

[This letter was referred to Dr. Wiley, who replies as follows:]

To the Editor:—The remarks attributed to me in the address before the Republican Club were evidently made by one of the other speakers. I have forgotten which speaker it was who gave statistical data as to the number of sick people and the cost of their medical attendance, but it was not I. I said nothing at all about the matter. I did, however, say in an address before Columbia University on the evening of the same day that young men might just as well give up the idea that there was any learned profession which gave promise of princely salaries and I stated that in my opinion the average salary of the physicians of the United States was less than $1,000 a year, which is about the same as the estimate given by Dr. Wallace. I suppose that there are twenty-five or perhaps a hundred in this country who do earn "princely" salaries, but it never entered my mind that such earnings were common to the profession.

H. W. WILEY, Washington, D. C.

Plague in China

To the Editor:—I expected to take my furlough in the early spring . . . My plans have recently been changed owing to the arrival of the plague in this vicinity, making it necessary for me to remain at my post. . . .

I have been in the vicinity of plague before, but it was not like that which is surrounding us at the present time, viz., pneumonic and septicemic. The pneumonic is by far the most common. It seems to me to be reasonable to ascribe the presence of these two varieties to the intense cold and to the conditions under which the people live. The temperature is often 30 below zero and the Chinese huddle together on large brick beds, as they go up to Manchuria from the northern provinces of China to do coolie work. Under these conditions, if bubonic plague got under way it would not be strange if its virulence should increase and take on the more severe forms. The septicemic type seems to be less contagious, or the contagion does not emanate from the patient in a continuous stream as it does from the pneumonic variety. The matter vomited in the latter type contains the bacilli.

J. H. INGRAM, Tungchou, Peking, China.

[COMMENT:—The above is taken from a letter of a subscriber who is writing on other matters. What is said regarding the plague is incidental. This is an example of one man sticking to his post in time of danger.—EDITOR.]

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EFFECTS OF THIOSINAMIN

To the Editor:—I would like information from the profession at large in regard to the effects of thiosinamin. In a case of polymyositis I have been giving hypodermic injections of this drug. The patient has been affected with this trouble for more than a year and the muscles are in a stage of fibrous degeneration. The drug has been administered with the view of obtaining its reputed effect of causing an absorption of cicatricial tissues.

The patient has received two injections weekly for the past seven weeks with but little beneficial effect. After the last five injections, however, there has been a uniform marked reaction, as follows: About two hours after the injection of 3 grains of the drug a severe chill occurs, followed by a rise of temperature to about 102 F. This temperature persists for from twenty-four to thirty-six hours. After the first two days it is accompanied by profuse perspiration and marked heart weakness. During the second day improvement begins. By the third day the patient is in her usual condition.

I would like to know if any other physician has ever used this drug with benefit, and if they have seen any such reaction.

I am unable to find any literature relating to this effect.

CHARLES F. CLOWE, M.D., Schenectady, N. Y.

ANSWER.—There are numerous reports in the literature in which beneficial results from the use of thiosinamin and the solution of thiosinamin and sodium salicylate are said to have been obtained. There is considerable doubt as to its permanent value in removing or softening scar tissue.

Thiosinamin poisoning has been reported in the last few years by a number of authors. Fever produced by this agent was noted by Hebra, who introduced the drug into medicine. His patient was tuberculous but free from fever. After the injections fever occurred, but it was uncertain whether it was due to the thiosinamin or to the tuberculosis.

Kunkel (Manual of Toxicology, 1901) reports headache, nausea, vomiting and lassitude after large doses (1 gm.) in man.

Brinitzer observed repeatedly attacks of fever up to 39.8 C. (103.6 F.) in a patient whom he was treating for scleroderma.

P. Grosse (*München. med. Wchnschr.*, April 28, 1908, p. 910) reports a case in which slight symptoms appeared after the first five injections, but the sixth was followed by a rise of temperature to 39.1 C. (102.4 F.), with weak pulse, loss of appetite, etc. A striking feature repeated in other cases was a loss of memory of the period in which the symptoms appeared.

Baumstark observed similar symptoms in a patient whom he was treating for cholecystitis.

F. Hayn (*München. med. Wchnschr.*, Feb. 15, 1910) reports a case in which the ordinary dose, 0.2 gm. (3 grains), produced chills and fever, severe headache, thirst and marked weakness. Severe vomiting occurred with the first symptoms of poisoning. In this case the symptoms began with the fifth dose.

R. Neisse (*Therap. Monatsh.*, May, 1910) reports a case of fever occurring after injection of solution of thiosinamin sodium salicylate in a patient in whom there was suspicion of tuberculosis, and recommends that caution be used in treating tuberculous individuals with thiosinamin.

Kölliker reports (*München. med. Wchnschr.*, July 19, 1910, p. 1550) a case of thiosinamin poisoning in a young woman to whom it was being administered for the relief of keloid. The first symptoms appeared after the fifth injection and consisted of chilliness, sweating, general malaise and severe headache. These symptoms appeared after every injection but were variable in duration. The headache lasted for from two to eight days and was entirely independent of the interval between the two injections. After an interval of nineteen days the symptoms of poisoning appeared with the same intensity as after an interval of one day. The injections, however, were continued and the treatment was successful. No influence on menstruation was observed.

HEMOPHILIA

To the Editor:—Two children, aged respectively 6 and 8 years, have been under my care since birth. On their mother's side they belong to a family of bleeders. They have severe attacks of epistaxis and also have frequent attacks of acute articular rheumatism; both have valvular disease. I have given suprarenal preparations and also the elixir of chlorid of calcium; both seem to do good, but for a short time only. Can you recommend anything better?

N. C. MILLER, Stroudsburg, Pa.

ANSWER.—Good results have followed the use of normal blood-serum (rabbit, horse or man), locally, subcutaneously and intravenously. A serum injection of from 20 to 30 c.c., subcutaneously, usually suffices, although it may be necessary to repeat the injection daily or every two or three days if indicated. The ordinary antidiphtheritic serum has been used. It does not need to be fresh; Hare has used serum that had been kept for six months. It is possible that the attacks of "acute articular rheumatism" are in reality "bleeder joints," the pain being due to small hemorrhages into the joint and subsiding with absorption of the blood.

HICCUP NOT ATTRIBUTED TO BACILLI

To the Editor:—Please inform me if a bacillus causes hiccup (singultus). If so, has it been isolated, and by whom? I have a case of hiccup of three years' standing. Can you furnish any literature on the subject or inform me where I can obtain any data?

F. H. LONGLEY, M.D., North Platte, Neb.

ANSWER.—A bacillus of hiccup—singultus—has not been isolated and it is hardly expected that one will be found, since hiccup is merely a symptom. The condition is discussed in the various textbooks on medicine and therapeutics; there is practically no current literature in regard to it. We have reference to one article during the last five years:

Bassler, A.: Singultus Gastricus Nervosus, *New York Med. Jour.*, Aug. 13, 1910; abstr. in THE JOURNAL A. M. A., Aug. 27, 1910, p. 800.

Complications of Typhus Fever.—E. Legrain and R. Treille review their experiences in northern Africa and assert that disinfection of the sick-room and sterilization of the mouths of patients with exanthematous typhus have always proved effectual in warding off complications in their experience. In epidemics in which these measures were neglected, complications were frequent and severe. In their communication on the subject in *Afrique Médicale*, 1910, xi, 377, they report some typical cases of severe complications, parotitis, joint affections and psoitis in the course of convalescence. Other patients presented symptoms suggesting secondary pancreatitis, suppurative meningitis, or abscesses in the mouth and neck. They cite a description of typhus A. D. 1300, and others by Italian writers in the fifteenth and sixteenth centuries.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 11, 1911.

Stallman, George E., D.S., March 2, reported for temporary duty at Fort Clark, Texas.

Dougherty, James C., M.R.C., February 9, reports in field for duty along Mexican boundary.

Daywalt, George W., M.R.C., March 6, ordered to proceed to his home, and on arrival there will report to the adjutant general of the Army for further orders.

Allen, John H., major, March 8, left Fort Myer, Va., with 3d Field Artillery en route to San Antonio, Texas, for field duty.

Wickline, William A., captain; Schlanser, A. E., and Bastion, J. E., lieuts., March 9, left Walter Reed General Hospital, Takoma Park, D. C., with Co. C, Hospital Corps, en route to San Antonio, Texas, for field duty.

Bartlett, William K., captain, March 7, appointed member of commission to meet at Washington, D. C., relating to the establishment of maneuvering ground and camp of inspection, rifle and artillery ranges near Chickamauga Park, Ga.

Krebs, Lloyd Le R., captain, March 7, honorably discharged from the service of the U. S.

Birmingham, H. P., lieut.-col., March 7, assigned to duty as chief surgeon of division now being concentrated at San Antonio Park.

Persons, Elbert E., major, March 7, ordered to San Antonio, Texas, for duty in chief surgeon's office, division at that place.

Whitcomber, C. C., captain, March 7, ordered to San Antonio, Texas, for duty as medical supply officer.

Roberts, William M., major, March 7, relieved from temporary duty at Fort Oglethorpe, Ga., and ordered to proceed with the 11th Cavalry to Fort Sam Houston, Texas.

Straub, Paul F., major, March 7, ordered to proceed to San Antonio, Texas, for duty as sanitary inspector of division.

Truby, Willard F., major, March 7, ordered to proceed to San Diego, Cal., and report for duty as commanding officer of the field hospital at that place.

Dutcher, Basil H.; Gilchrist, Harry L.; Hartsock, F. M., and Patterson, Robert U., majors, March 7, ordered to San Antonio, Texas, to assume command of the four field hospitals to be assembled at that place.

Jones, Percy L., captain, March 7, ordered to San Antonio, Texas, for duty in command of Ambulance Co. No. 2 at that place.

Baker, David, major, and Darby, Taylor E., lieut., March 7, left Fort McPherson, Ga., en route to Fort Sam Houston, Texas.

O'Connor, R. P., major, March 8, left Fort Screven, Ga., with troops en route to Galveston, Texas.

Bartlett, William K., captain, March 8, left Fort Oglethorpe, Ga., en route to Fort Sam Houston, Texas.

Hill, Eben C., lieut., March 8, left Madison Barracks, N. Y., en route to Fort Monroe, Va., for temporary duty.

Ford, Joseph H., major, March 8, left Fort Wadsworth, N. Y., with troops for duty in Texas.

Persons, Elbert E., major, March 8, left Fort Jay, N. Y., en route to San Antonio, Texas.

Fauntleroy, P. C., major, March 8, left Fort Benjamin Harrison, Ind., with the 10th Infantry en route to Fort Sam Houston, Texas.

Halliday, Charles H., M.R.C., March 9, left Fort Fremont, S. C., en route to Jackson Barracks, La., for temporary duty.

Waterhouse, S. M., major, March 9, left Fort Washington, Md., with troops en route to Fort Monroe, Va., and for duty in Texas.

Long, Charles J., D.S., March 9, left Fort Andrews, Mass., en route to Fort Constitution, N. H., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended Feb. 18, 1911.

Cecil, A. B., asst.-surgeon, detached from the *Nebraska* and ordered to the naval station, Gauntanamo, Cuba.

Changes during the week ended March 11, 1911.

Olcott, F. W., P. A. surgeon, commissioned passed assistant surgeon from Feb. 13, 1911, and transferred to the retired list from that date.

Richardson, R. R., surgeon, detached from the navy yard, Portsmouth, N. H., and ordered to the *Prairie*.

Downey, J. O., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the *Prairie*.

Pugh, W. S., P. A. surgeon, detached from the naval hospital, New York, and ordered to the *Dixie*.

Elmore, B., A. A. surgeon, commissioned acting assistant surgeon from March 4, 1911.

Beyer, H. G., medical director, commissioned medical director from Feb. 27, 1911.

Mink, O. K., P. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *West Virginia*.

Miller, J. T., P. A. surgeon, detached from the Navy recruiting station, St. Louis, and ordered to the *Franklin*.

Abeken, F. G., P. A. surgeon, detached from the *West Virginia* and ordered to the Navy recruiting station, St. Louis.

Higgins, M. E., P. A. surgeon, ordered to the naval medical school, Washington, D. C.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 8, 1911.

Cofer, L. E., assistant surgeon-general, granted ten days' leave of absence from March 6, 1911.

Pettyjohn, J., P. A. surgeon, granted one month's leave of absence from Feb. 23, 1911, on account of sickness.

Hamilton, H. J., A. A. surgeon, granted seven days' leave of absence from March 6, 1911.

Schug, F. J., A. A. surgeon, leave of absence for thirty days from Feb. 18, 1911, revoked.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE FEES, LEGISLATION, ETC.

STATE LEGISLATION ON PUBLIC HEALTH

The progress of legislation and the new bills introduced regarding which THE JOURNAL has been informed, are reported below by states.

ALABAMA

A bill is introduced by Senator Justice to amend the existing medical practice act by giving the State Board of Medical Examiners power to revoke a physician's certificate for use of liquor or narcotic drugs to such an extent as to render him unsafe or unreliable as a practitioner; being so infirm mentally as to render him unsafe and unreliable; being guilty of gross immorality and unprofessional conduct likely to deceive, defraud or injure the public; advertising himself or his practice; inducing or aiding in inducing a criminal abortion; performing an operation of major surgery when his certificate does not entitle him to do so or being convicted of any offense involving moral turpitude. The bill also provides the manner of bringing charges and of procedure on the part of the board. This bill has passed the senate. An optometry bill has also been introduced.

CALIFORNIA

The senate has passed a bill making it a felony to trade in medical certificates or diplomas from medical colleges or to use the title of "doctor" or any other title having a similar meaning for fraudulent purposes. A bill has also passed the senate providing that an applicant for a license to practice medicine or other form of healing who passes the examination in seven of the ten required subjects shall be allowed a reexamination in the remaining three. A bill to repeal the compulsory vaccination law has passed the lower house. A bill to amend the present medical practice act has been defeated in the senate.

COLORADO

The following bills have been introduced: to regulate slaughter houses; a meat inspection bill; to create local boards of health; to provide for the medical inspection of school teachers and children for contagious diseases; to regulate the use of the common drinking cup; to prohibit the sale of undrawn cold storage poultry, fish or game; to amend the vital statistics law; to provide for the sanitary keeping, storing and transportation of foodstuffs; to repeal the compulsory vaccination law; to provide for the sanitation of bakeries, canneries, packing houses and all places where food is prepared, manufactured, packed, stored, sold or distributed; to provide for dental examination of children; to regulate the location of sanitariums for tuberculosis; to regulate the sale of habit-forming drugs; to provide for the supervision of lying-in hospitals and maternity homes; to regulate embalming; to establish a chiropractic board of examiners; to establish an optometry board of examiners and to amend the pure food law.

CONNECTICUT

An optometry bill has been introduced, also a bill to repeal the compulsory vaccination law. Several bills to amend the act of 1909 establishing country homes for the care of tuberculosis, have been introduced. One of the most unusual of state enactments is a bill passed by the Connecticut legislature giving Stephen Benoni Sweet, son of Dr. J. Byron Sweet, a member of the lower house of the legislature, the right to practice bone-setting and to call himself "doctor." According to newspaper reports, this act is due to the "wonderful gift that has been in the Sweet family since 1630." No statement appears in the press reports as to why this "wonderful gift" was not supplemented by a course of medical instruction.

ILLINOIS

The following bills have been introduced in the Illinois legislature: H. B. 29, to amend the employer's liability law; H. B. 94, to enable boards of education in cities to establish classes and schools for deaf, dumb, crippled children, blind, truant, subnormal, convalescent and incipient invalid children; H. B. 140, to establish a surgical institute for children; H. B. 146, to provide a pension fund for municipal employees; H. B. 152, to prevent fraud in the sale of dairy products, etc.; H. B. 153, to regulate the sale of concentrated food stuffs; H. B. 154, to regulate the manufacture, packing, storing and sale of food articles; H. B. 169, to make appropriations for the maintenance of the College of Medicine of the University of Illinois; H. B. 193, to regulate hotels, inns and lodging houses; H. B. 201, to regulate the practice of chiropody; H. B. 213, to authorize the improvement of streams; H. B. 214, to create a state board of forestry; H. B. 215, to create a state board of education; H. B. 241, to revise the divorce law by making the habitual use of morphin for two years grounds for divorce; H. B. 260, to protect employees of the state from the dangers of occupational diseases; H. B. 260, to regulate the work of children under 16 years of age; H. B. 380, to amend the medical practice act; S. B. 246, to amend the coroners' law; S. B. 249, to revise the law regarding the commitment and detention of lunatics; S. B. 260, to provide for the inspection, license and regulation of cold storage houses; S. B. 264, to amend the factory inspection law, and S. B. 459, to establish a state colony for epileptics.

INDIANA

The school medical inspection bill, drafted by the State Board of Education, to authorize school authorities to institute medical inspection of school children and to make such inspection compulsory after 1915, passed the senate. It further authorizes the State Board of Health and the State Board of Education to prepare leaflets on the prevention of disease and the conservation of health and to teach these subjects in all public schools. It also provides for sanitary sites and buildings for public schools and for proper heating, lighting and ventilation. A bill has been introduced to provide for the reporting of all defective children to the State Board of Health; also a weights and measure bill, to establish standards and to authorize the State Board of Health, through its food and drug inspectors, to enforce these standards. A bill to appropriate funds for a state hospital for tuberculosis and for the collection of vital statistics has been introduced. A bill has passed the house to require medical examination and certification of freedom from venereal diseases on the part of male applicants for marriage licenses. A bill to require a license fee of $10 a month for itinerant vendors has been introduced in the house; a child labor bill, a bill to prevent spitting in stores, public buildings and public places, and a bill to regulate the storing of food products in cold storage warehouses, have also been introduced. Governor Marshall has signed the cold storage label bill, the medical inspection bill and the ophthalmia neonatorum bill. A bill introduced by Senator Stotsenburg would provide for the issuance of medical licenses without examination until July 1, 1911. It is alleged that this bill was introduced for personal reasons, in order to obtain a license for a woman who has failed to pass the state board examination. The bill is opposed by the state board of medical examiners and the state society. Dr. W. T. Gott, secretary of the state board, states that there are about 600 persons in Indiana who have failed to pass the state board examination who would take advantage of this opportunity to register, as well as many others from the surrounding states who would flock in at once. Probably the bitterest fight in the legislature has been over the Gers bill, which was intended to deprive the secretary of the State Board of Health of most of his power. The bill was voted down by the senate, 41 to 7.

IOWA

A bill to change the composition of the State Board of Medical Examiners has passed the house. This bill provides that in addition to the superintendent of public instruction, the state board shall consist of one county superintendent, one member of the school board, one superintendent of city schools, one primary teacher and one teacher of a rural school. A bill to abolish the state board of veterinary examiners has been introduced. A bill to provide for the sterilization of criminals, idiots, feeble-minded and epileptics, modeled after the Indiana law, has been introduced.

KANSAS

A bill to appropriate $100,000 to build a clinical hospital in Kansas City, Kan., in connection with the Kansas University Medical School, has been introduced; also a bill to provide for the registration of births and deaths, drafted on the lines of the model bill of the American Medical Association. This bill has been favorably reported on by the house committee.

MAINE

The osteopathic bill has been defeated in the senate by a vote of 15 to 14 and in the house by a vote of 91 to 36. A bill to prohibit the issuance of insurance policies protecting

physicians and surgeons against malpractice damages has also been defeated. A bill to amend the medical practice act has been introduced.

MASSACHUSETTS

A large number of bills of interest to the medical profession have been introduced, among them bills to prohibit the sale of intoxicating liquor and narcotic drugs to hospital patients; to regulate the cold storage of food products; to regulate the lighting of factories and work shops; to regulate meat inspection; to regulate the sale of cocain; to regulate the practice of healing by unregistered physicians; for the prevention of cruelty to animals; to regulate the distribution of milk; to prohibit spitting in public places; to require practitioners of Eddyism and hypnotism to register with the State Board of Health; to prohibit the use of suction shuttles in factories; to regulate the sanitary arrangements of factories, work shops, etc.; to regulate the sale of opium; to provide for the disinfection of public telephone stations; to regulate the cutting of ice, and to establish a board in optometry.

MICHIGAN

A "chiropractic" bill has been introduced.

MINNESOTA

A bill has passed the senate to create a state tuberculosis commission and to authorize the establishing of public tuberculosis sanatoriums in each congressional district. This bill has been prepared by the legislative committee of the Minnesota Association for the Prevention and Relief of Tuberculosis. An itinerant vendors' bill has been introduced and a bill to authorize the appointment of sixty-three state medical inspectors and sanitary inspectors.

MISSOURI

A bill to establish a board of examiners in optometry has been defeated in the senate. A bill to require all who profess to cure physical and mental ills to have diplomas from medical colleges has been introduced.

MONTANA

The Montana legislature has adjourned. The following bills have become laws: S. B. 134, providing that sewage systems must be approved by the State Board of Health and relating to the pollution of water supply; H. B. 27, regulating the sale of habit-forming drugs; H. B. 115, providing for the payment of physicians in insanity examinations; H. B. 290, prohibiting the possession or sale of toy pistols, blank cartridges and explosive caps; H. B. 34, the pure food law; H. B. 121, the dairy law, and H. B. 139, providing for state veterinary surgeons passed both houses and are now in the governor's hands; H. B. 364, to regulate the lighting, heating and ventilating of public buildings was not passed. The bill providing for a tuberculosis sanitarium passed both houses and has been signed by the governor; also a bill appropriating $5,000 for 1911 and an equal sum for 1912, to continue the investigation of spotted fever.

NEVADA

An osteopathic bill passed the house but failed to pass the senate. Bills to amend the medical practice act to create a state board of health have been introduced.

NEW HAMPSHIRE

Bills have been introduced to amend the medical practice act, to prevent the pollution of the Winnepesaukee River, to regulate weights and measures and to provide for the medical inspection of schools.

NEW JERSEY

An osteopathic bill, a bill to regulate cold storage and a bill to raise the standard of medical practice in the state have been introduced.

NORTH DAKOTA

A bill to regulate the management of hospitals has been introduced, containing a section providing that no major operation shall be performed on any patient in any licensed hospital, except in an emergency, until the attending surgeon has filed with the superintendent of the hospital a statement giving the reasons for the operation and the pathologic conditions which render it necessary. This statement must be approved and signed by an independent physician not in any way a financial beneficiary from the operation. An additional section provides that all diseased organs or tissues removed in the course of an operation must be sent to the state public health laboratory for examination.

OHIO

An optometry bill, similar to the one which Governor Harmon vetoed last year, has been introduced; also a bill for instruction of persons suffering from tuberculosis; a bill for the sterilization of criminals, imbeciles, epileptics and others; a bill to regulate the medical inspection of public school children; a bill to regulate the sale of articles of food held in cold storage; a bill to authorize boards of health to establish dispensaries; a bill to regulate the requirements for admission to any college of law, medicine, dentistry or pharmacy; a bill to provide for the proper certification of deaths in municipal hospitals; a bill to make vaccination optional and a bill separating inmates of the penitentiary and reformatory suffering from tuberculosis. A housing bill, endorsed by the associated charities of the state, as well as a sanitary bill, placing all members of the sanitary police force under civil service, and a bill to place infantile paralysis and ophthalmia neonatorum on the list of communicable diseases, have also been introduced.

OREGON

A bill has been introduced to recognize "Naturopathy."

PENNSYLVANIA

An optometry bill has been introduced, also a number of bills to regulate the practice of medicine. A bill to authorize the sterilization of idiots, feeble-minded and insane persons has been introduced; also a bill to regulate the sale of cocain; a bill to appropriate $425,000 for Jefferson Medical College and a bill to prevent the issuance of marriage licenses to imbeciles, epileptics or persons afflicted with a transmissible disease or under the influence of intoxicating liquors or narcotic drugs, have also been introduced.

RHODE ISLAND

The usual osteopathic bill has been introduced.

TENNESSEE

A vital statistics bill has been introduced; also a bill to create county boards of health; a bill to amend the pure food law and a bill to provide for medical inspection of schools.

TEXAS

An optometry bill has been introduced; also a bill to appropriate $150,000 for a tuberculosis sanitarium and a bill to incorporate the sanitary code of the health department as a law and to reenact the law creating the State Board of Health; a bill to exempt graduates of the Medical Department of the State University from examination by the state board has been reported on adversely by the house committee.

UTAH

A bill to empower the State Board of Health to revoke the licenses of physicians who fail to report contagious diseases and deaths; also a bill to regulate the sale of narcotic drugs, and a bill to provide for the examination of school children have been introduced.

WASHINGTON

A bill to provide for the appointment of a tuberculosis commission has been introduced; also a bill to amend the medical practice act. The State Board of Health is supporting a bill for the supervision and preservation of the water supplies for cities; also a bill to remove the health officers of the state from politics and to place them under the control of the State Board of Health.

WEST VIRGINIA

Governor Glascock has signed a bill to establish a state tuberculosis sanitarium, and a bill to regulate the sale of habit-forming drugs; a bill to establish medical inspection in public schools has become a law; a bill to amend the child labor law has passed the house; two bills to amend the medical practice act in an undesirable manner have died in the committee.

WISCONSIN

The following bills have been introduced: for the prevention and suppression of contagious diseases among live stock; to abolish the use of the common drinking cup on railway trains; for the prevention and control of dangerous communicable diseases; to regulate the hours of labor for women in manufacturing establishments; to provide for the registration of

nurses; one relating to the organization of local boards of health; to regulate the pollution of streams and public waters; to regulate the sale of undressed poultry; to provide for the medical inspection of public school children; to forbid expectoration in public places; to make provision for the care of indigent, crippled and deformed children; to provide for the incorporation of medical milk commissions and the certification of milk.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Eighth Month—Third Weekly Meeting

DISEASES OF THE OVARIES

OOPHORITIC CYSTS: Glandular and dermoid; pathology and description of each.

PAROOPHORITIC CYSTS: Pathology, description.

COMPLICATIONS OF OVARIAN CYSTS: Inflammation, hemorrhage, twisting of pedicle, rupture and adhesions; symptoms and diagnosis of each.

DIAGNOSIS OF OVARIAN CYSTS: Pelvic stage: Position, mobility, relations, shape and consistency of tumor. Abdominal stage: Physical signs on inspection, palpation, percussion, mensuration, auscultation. Exploratory incision.

DIFFERENTIAL DIAGNOSIS: Differentiate from pregnancy, phantom tumor, encysted ascites, fibrocyst of uterus, cystic tumor of kidney.

PAROVARIAN CYSTS: Pathology: Size, characteristics, cyst wall, contents. Symptoms: Pressure symptoms, menstrual disorders, sterility.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

ARIZONA: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

CALIFORNIA: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

COLORADO: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

DISTRICT OF COLUMBIA: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

IDAHO: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

MINNESOTA: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

MONTANA: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

OKLAHOMA: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

RHODE ISLAND: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

UTAH: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

WEST VIRGINIA: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

A Diploma Factory

In September, 1910, there came to this office several copies of a circular advertising the Gate City Medical College of Dallas, Tex. (formerly of Texarkana, Tex.). This circular was widely distributed through the southern states. It gave no street address for the college but contained the following specific directions as to how an applicant might reach the right parties:

When you arrive in Dallas go to some hotel or business house and call us over the telephone. Our number is Main 3941 and Main 6631, or take the Hickory Street car and come to the Hickory Street drug store, corner Hickory and Nettie Streets, where you can get all desired information. Hickory cars pass in front of the postoffice, making it easy to find.

The suggestion was made to a Mississippi physician, who had sent us one of the circulars, that he endeavor to learn on what terms a diploma might be obtained, whereon he sent the following letter:

————, Miss., Oct. 8, 1910.

Dr. J. W. Decker, Dean,
Dallas, Texas:

Dear Sir.—I am convinced of the great nead of a Diploma for a practitioner. I wish I could atend the Gate City Medical College but I have a very large practice No Doctor in 15 miles and sickness in my family. It is impossible for me to come. I would not mind the expense. Is it possible for me to pay like I was there and you give me the Diploma without Coming. I am a lisensed Doctor and can give best references.

Your friend, . . .

And here is the reply:

Gate City Medical College
J. W. Decker, M.D., Dean.
Dallas, Texas, ————190

Dear Doctor ————,

In reply to yours of some days ago I will say that I can arrange to give you some home reading and give you a diploma same as if you were here. It will be genuine and will be entered upon the records same as if you were here, and you can refer to us as a graduate of the school at any future time should you wish to do so as many have done.

Very truly yours,
J. W. Decker, M. D., Dean.

P. S. The whole fees will be only $50 professors fee. No extra charges for anything else and I will guarantee you to get your diploma. D.

If satisfactory send fee at once and I will send you some work to be looking over and enter your name for a diploma. Give me your full name.

In the meantime one of the circulars and copies of the above correspondence were sent to the former secretary of the Texas State Board of Medical Examiners, who referred the matter to the board's attorney, Mr. J. N. Wilkerson. The attorney reported that he personally called at Dr. Decker's office and that he succeeded, in about half an hour, in purchasing outright two diplomas for the stipulated sum of $50, without having ever taken any medical work and without having passed an examination. The so-called regular diploma, he said, was printed in Latin, since avowedly that "would fool 'em," and the other was a special certificate for a special course on the diseases of women and children. It is stated that these diplomas were dated two years back to "show additional experience." The attorney further states that the federal court found a bill of indictment against Decker for using the United States mails to promote a fraudulent scheme.

Virginia December Report

Dr. R. S. Martin, secretary of the Virginia State Medical Examining Board, reports the written and oral examination held at Lynchburg, Dec. 20-23, 1910. The number of subjects examined in was 9; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 35, of whom 28 passed and 7 failed, including 1 osteopath. Eight reciprocal licenses were granted. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
George Washington University		(1909)	75
Howard University, Washington, D. C.		(1904)*	
College of Physicians and Surgeons, Chicago		(1908)*	
University of Louisville		(1910)	78, 85
University of Maryland		(1910)	80, 81
Baltimore Medical College		(1909)	77
College of Phys. and Surg., Baltimore	(1904)*	(1910)	82
Maryland Medical College		(1909)*	
Johns Hopkins University		(1910)	83
University of Buffalo		(1895)*	
Leonard School of Medicine, (1907) 76; (1909) 78; (1910)			75, 80.
Hahnemann Medical Coll. and Hosp., Philadelphia		(1894)*	
University of Pennsylvania	(1897)*	(1906)*	
University of the South		(1904)*	
Vanderbilt University		(1901)*	
Medical College of the State of South Carolina		(1910)	79
University College of Medicine, Richmond		(1910)	76
University of Virginia	(1910) 77;	(1911)†	84
Medical College of Virginia	(1900)*	(1910)	88

FAILED

College		
Maryland Medical College	(1909)	61
College of Physicians and Surgeons, Boston	(1907)	73
Leonard School of Medicine	(1908) 73; (1910)	71
Hahnemann Medical Coll. and Hosp., Philadelphia	(1896)*	
University of the South	(1908)	68

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Georgetown University	(1900)	Dist. Colum.
Howard University, Washington, D. C.	(1890)	Kentucky
Tulane University of Louisiana	(1903)	Louisiana
Maryland Medical College	(1901)	N. Carolina
University of Maryland	(1909)	W. Virginia
Hahnemann Med. Coll. and Hosp., Philadelphia	(1907)	Dist. Colum.
Tennessee Medical College	(1904)	Tennessee
University College of Medicine, Richmond	(1909)	N. Carolina

* Took oral examination.

† Certificate will not be granted until applicant gets diploma in June, 1911. Full course completed, but will not receive diploma until above date.

Vermont January Report

Dr. W. Scott Nay, secretary of the Vermont State Board of Medical Registration, reports the written examination held at Montpelier, Jan. 10-12, 1911. The number of subjects examined in was 13; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 11, of whom 10 passed and 1 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
College of Physicians and Surgeons, Baltimore	(1909)	84.3
Harvard University Medical School	(1908)	82.8
University of Vermont, (1910) 76.1, 79.2, 80.4, 81.1, 82.7, 83.5. 84.3, 86.5.		

FAILED

College		
College of Physicians and Surgeons, Boston	(1909)	73.8

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Hahnemann Medical Coll. and Hosp., Chicago	(1908)	Illinois
Maryland Medical College	(1910)	Maine
Boston University	(1896)	New Hamp.
Hahnemann Med. Coll. and Hosp., Philadelphia	(1900)	New Jersey
Laval University, Quebec	(1907)	Maine

Book Notices

INDUCED CELL-REPRODUCTION AND CANCER. The Isolation of the Chemical Causes of Normal and of Augmented, Asymmetrical Human Cell Division. By Hugh Campbell Ross, M.R.C.S. (Eng.), Surgeon, Royal Navy (Emergency List). Being the Results of Researches Carried Out by the Author with the Assistance of John Westray Croper, M.B., Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Cloth. Price, $4.50 net. Pp. 423, with 129 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

The object of this ambitious book is to present the details obtained by the study of living human cells under the microscope and the bearing of the results especially on the causation of cancer. The living cells, principally blood-cells, "are examined by placing them, under a cover-glass, on the surface of a film of jelly, which may contain dissolved in it any substance we may wish to experiment with, and which has, while in a molten condition, been poured on the microscopic slide and allowed to set there." The substance used in making the jelly is agar. It proving impossible to prepare permanent specimens by fixation of the jelly films, a rapid and ingenious method of photomicrography was worked out so that the appearances presented by the cells under observation could be reproduced accurately at any moment. The illustrations in the book have been made from photographs thus obtained.

Ross has found that by means of certain diffusible substances mixed with the jelly, leukocytes and other cells placed on the jelly may be caused to divide (once only) under the eye of the observer. This is the "induced cell reproduction." Such substances are called "auxetics," from the Greek meaning "exciters of reproduction." Among these substances are besides atropin and other alkaloids, xanthin, creatin, globin; now because these last and similar bodies occur in dead and disintegrating tissue, the cell proliferations of simple healing of wounds and of tumors are traced to the "auxetic" action of the bodies just mentioned—"the remains of dead tissue." On the basis of this notion chronic ulcers have been treated with applications of globin; the authors remark, "We think we can say safely that it causes more rapid healing of them than if they were treated in the usual way." The view that carcinoma is the result of "auxetics" the action of which is augmented by cholin, cadaverin and other putrefactive alkaloids and "the crucial experiment" are discussed in the last two chapters. It was found that normal serum has the power to restrain the "natural" auxetics from inducing cell-division and it was resolved to try to increase in the cancer patient the amount of this restraining body by injecting 6 ounces of defibrinated sheep's blood per rectum every morning. "The serum contains the restraining body, and it was argued that the red cells would be destroyed in the rectum, the hemoglobin decomposed, and in time the globin would become augmented by the action of the bacteria present. It was presumed that the restraining body of the serum, the auxetic in the globin and in the remains of the white cells, and lastly, the products of the decomposition would be gradually absorbed, and that they might raise the content of restraining body in the patients; in other words, they might act as a sort of vaccine." In the two principal cases in which this treatment was employed it is not known whether the patients had carcinoma or not; in both there seemed to be some temporary improvement. But the real "crucial test" was made on a patient with an ulcerating inoperable carcinoma of the breast; a part of the ulcer was treated with globin until the glistening malignant surface gave place to normal granulation tissue as shown by microscopic examination; a mixture of five parts of globin and one part of cholin was evaporated to dryness and small pieces applied to a minute area of the edge of the treated part of the ulcer. "In forty-eight hours a conical excrescence appeared at the seat of application" with "apparently new malignant cells." Ross freely admits that "this test is by no means conclusive."

Ross' studies of the behavior of living cells outside the body are of interest. That his "induced cell reproduction," which is the corner-stone of the whole work, is a real cell division of the same nature and significance as that which takes place in the body, is unproved. Successive generations of living cells must be produced *in vitro* before his claims on this point will stand.

So far as the applications of the observations to cancer are concerned, the credulousness of the author and the impudence of the publishers' circular in speaking of the methods used as indicating "that the cause of cancer has been discovered and a way opened for successful treatment" cannot but cause amazement.

A SYSTEM OF SYPHILIS. In Six Volumes. Edited by D'Arcy Power, F. R. C. S., and J. Keogh Murphy, F.R.C.S. With Introduction by Sir Jonathan Hutchinson, F.R.S. By Various Authors. Cloth. Price, $13.50. Vol. V, pp. 356, with illustrations. Vol. VI, pp. 514, with illustrations. New York: Oxford University Press, 1910.

These two volumes, closing the "System," contain a group of articles which consider various special topics belonging to a complete exposition of syphilis. Being exhaustive articles on special subjects in syphilis, written by men of authority in the various fields, the contributions are all of them interesting and useful and some of them are notable.

Volume V contains "Affections of the Skin in Syphilis," by Phineas S. Abraham and Haldin D. Davis; "Ocular Syphilis," by C. Devereux Marshall; "Aural Syphilis," by C. Ernest West, and "Syphilis in the Upper Air Passages," by St. Clair Thomson. All of these authors are well known and their contributions are of the high character that would be expected of them. Each of the articles is very full; one may consult any of them for almost any fact in its scope, and they are thus exceedingly useful possessions for any medical library. They are all copiously illustrated, with colored illustrations for the most part. These illustrations, as those in the other volumes, constitute a valuable feature of the work. The English color prints of pathologic objects have not reached the remarkable excellence that we have become used to in recent German publications, but these are good and they serve their purpose of depicting for the reader the conditions which they are intended to portray.

Volume VI is unique, in that it brings together in one book a complete consideration of syphilis in the public services

especially the army and navy. It is a very proper conclusion to such a system, and is an eminently valuable work.

Its scope is shown by the titles and authors of the various papers: "Introduction," by Sir Alfred Keogh, late Director-General of the Army Medical Service; "The History and Epidemiology of Syphilis in the More Important Armies," by Lieut. Colonel Charles H. Melville of the Royal Army Medical College; "Pathology and Microbiology of Syphilis as Applied to the Public Services," by Captain L. W. Harrison; "Clinical Course and Treatment of Syphilis in the Army," by Major C. E. Pollock; "Syphilis in the U. S. Navy," by Surgeon Charles N. Fiske; "The Epidemiology of Syphilis in the Royal Navy," by Fleet Surgeon E. P. Mourilyan; "The Practical Treatment Afloat of Syphilis in the Royal Navy," by Surgeon Charles K. Bushe.

It is evident from this enumeration that there must be considerable repetition in some of these contributions of matter discussed elsewhere in the "System," but this is a small objection in comparison with the very valuable lights thrown on the sociologic aspects of syphilis by a consideration of it from the standpoint taken in this work. Since syphilis first spread over Europe with the mercenaries of the army of Charles VIII of France, armies and navies have always been fruitful fields for syphilis, and this volume is a veritable thesaurus of knowledge in this field. We know of no single place where such a collection of knowledge of this sort is available.

In conclusion, a word of strong commendation should be said for the "System" as a whole. We believe that the time spent in reading its six volumes will be found very profitable in additions to the knowledge of even the well-informed reader, while many of the topics considered have been treated with so broad a view and contained so much of unusual information that their reading will afford the pleasure that comes from stimulated interest. The "System" constitutes a notable contribution to the permanent literature of syphilis and is an honor to British medicine. But it is more than that; such a monumental work can hardly hope for adequate monetary returns from its sales, so that its publication is a credit to the spirit which insured its issue and to the fine zeal for the advancement of knowledge of its editors and contributors. It is a work which highly deserves to be in every scholarly physician's library.

THREE CONTRIBUTIONS TO THE SEXUAL THEORY. By Prof. Sigmund Freud, LL.D., Vienna. Authorized Translation by A. A. Brill, M.D., Clinical Assistant, Department of Psychiatry and Neurology, Columbia University. With Introduction by James J. Putnam, M.D. Paper. Price, $2. Pp. 91. New York: The Journal of Nervous and Mental Disease Publishing Co., 1910.

No man in modern neurology can boast of more ardent adherents and more violent enemies than Sigmund Freud, of Vienna. Not even his critics, however, can deny that he is a pioneer in a field hitherto but little cultivated. But while neurologists are discussing the merits and demerits of Freud's theories of the neuroses, the members of the medical profession as a whole know little of the points at issue. Unfortunately for the English reader, the German text of Freud's scattered articles is rather involved and abounds with a newly created, and therefore unknown, terminology. Hence the many misunderstandings. It is therefore well that the translation of the "Selected Papers on Hysteria and Other Psychoneuroses" has been followed by a translation of the "Three Contributions to the Sexual Theory." Whatever views one may hold concerning Freud's theories, it is essential that they be based on a first-hand acquaintance with the author's writings, not the least important of which is the present volume. As Putnam has already stated, no one can understand Freud's views until he has carefully read the several fundamental articles on which these are based. Brill's attractive translation of the present volume is the more welcome as it will have a tendency to moderate the tone of those of Freud's critics who only half-understood the author's meaning in the original German text. Careful reading of this interesting monograph carries the conviction that regardless of the question whether or not his psycho-analysis and mental catharsis will ever become popular, Freud has probed the innermost recesses of the normal and abnormal human mind. The contributions deal with (1) the sexual aberrations, (2) the infantile sexuality, and (3) the transformation of puberty. Psychologist, educator, jurist and physician will therein discover viewpoints on the sex-question which must stimulate further research in this hitherto neglected field.

SYPHILIS: ITS DIAGNOSIS, PROGNOSIS, PREVENTION AND TREATMENT. By Thomas P. Beddoes, F.R.C.S., Surgeon to the London Hospital for Diseases of the Skin. Cloth. Price, $2 net. Pp. 224. New York: Paul B. Hoeber, 1910.

In this work the author gives most of his attention to the cutaneous manifestations of syphilis. In addition, the clinical course, including the symptoms of the disease as a general infection, is given, but syphilis of the various structures besides the skin is given such brief consideration that the work can hardly be regarded as covering the subject of syphilis. For example, syphilis of the vascular system is given six small pages, about 1,500 words; syphilis of the bones, six pages; and that of the nervous system, including parasyphilitic diseases, five pages.

The author evidently has first-hand knowledge of syphilis, but, like so many of our English colleagues, is extremely careless in his manner of imparting it to others. Every cutaneous lesion, from roseola to ulcerating gummata, is a "rash." "The macule . . . is the first rash to appear." Of course a macule is an individual lesion and not a "rash." Such examples could be multiplied at length. The work cannot be said to be up to date. There is no distinct consideration of the serum-complement reaction in the diagnosis of syphilis; no reference to it in the index; and a rather careful reading of the work does not leave in our mind any memory of a single reference to it. Under prophylaxis no reference is made to Metchnikoff's important contribution to the subject—the most important contribution of recent years. Of course a work which leaves out such important additions does not satisfactorily represent the subject. Perhaps the explanation of the lack of consideration of these comparatively recent additions to syphilology lies in the fact that the work is older than it seems; an explanation that is supported by the observation that, while the publisher's imprint bears the date 1910, the author's preface is dated 1908—and these days knowledge is moving fast in syphilis.

THE MENTAL SYMPTOMS OF BRAIN DISEASE. An Aid to the Surgical Treatment of Insanity, Due to Injury, Hemorrhage, Tumors and Other Circumscribed Lesions of the Brain. By Bernard Hollander, M.D. With Preface by Dr. Jul. Morel, Late Belgian State Commissioner in Lunacy. Cloth. Price, $2. Pp. 237. New York: Rebman Co., 1910.

In this work, the author deals with insanity based on focal lesions in the brain. Through the study and proper interpretation of symptoms, their mode of onset and associated conditions, he emphasizes the possibility of making a true pathologic diagnosis. Hollander cites many case records collected from various sources, including many of his personal observations, which demonstrate this possibility of localizing mental diseases. His study of these cases has enabled him to attach certain symptoms to lesions in the frontal lobes where the centers of perception and of special memories are located. He discusses lesions in the parietal, temporal and occipital lobes in a similar manner. The study of such mental diseases demands that one should be a close student of psychology. Dr. Hollander does not state that surgery should be employed in the majority of cases of insanity, but believes that a certain per cent. of these cases if studied early in their course may be greatly benefited by surgery.

MANUAL OF SURGERY. By Alexis Thomson, F.R.C.S., Professor of Surgery, University of Edinburgh, and Alexander Miles, F.R.C.S., Surgeon, Edinburgh Royal Infirmary. Vol. I, General Surgery. Pp. 886, with 339 illustrations. Vol. II, Regional Surgery. Pp. 861, with 227 illustrations. Third edition. Cloth. Price, $7. Pp. 861, with 227 illustrations. New York: Oxford University Press, 1909.

This is a comprehensive and systematic review of modern surgery, sufficiently detailed for the practitioner and not beyond the scope of the manual for students. It incorporates the important advances of the past two years, since the second edition, such as the Bier treatment, vaccine therapy, and the newer surgery of the peripheral nerves as worked out by Head and Sherren. Less attention is paid to description of operations than to careful description of symptoms, pathology and indications including principles of operating

The book is quite up to date in matter likely to be considered catch questions by examination boards, such as "snapping hip," "Madelung's deformity," and other rare conditions. The work is a standard compact summary of the best method of the Edinburgh school and should prove useful to medical students and practitioners everywhere. The illustrations consist of photographs and wood-cuts. The volumes are small and compact.

A HANDBOOK OF THE SURGERY OF CHILDREN. By E. Kirmisson, Professor of the University of Paris. Translated by J. Keogh Murphy, F.R.C.S., Surgeon, Miller General Hospital for South East London. Cloth. Price, $7. New York: Oxford University Press, 1910.

This book may be considered as a compilation of surgical monographs, rather than as a treatise covering the subject. It presents, in a very attractive manner, a discussion of some of the more common surgical disorders of childhood which the general practitioner may be called on to treat. In the first part are considered congenital defects and malformations. This is a masterly presentation of the subject. In the chapters on fractures, however, while those of the upper extremities are discussed very thoroughly, it is difficult to understand why some other common fractures are not mentioned at all. For instance, fracture of the clavicle surely deserves some discussion among the fractures of children, but it is not mentioned. The book, however, will be of assistance to anyone who wishes to consult a special work on the surgery of childhood.

LEHRBUCH DER UROLOGIE UND DER KRANKHEITEN DER MÄNNLICHEN SEXUALORGANE. Von Dr. Alfred Rothschild, Spezialarzt für Urologie in Berlin. Paper. Price, 13.50 marks. Pp. 522, with 162 illustrations. Leipsic: Dr. Werner Klinkhardt, 1911.

This book presents the merits and demerits frequently observed in the products of German authors; it is cyclopedic rather than concise, scholarly rather than didactic; it enables the reader to know many things, but to do few things; and its therapy is curiously incomplete. Thus tuberculin therapy and the entire subject of vaccine therapy receive each just enough space—three lines—to be named and dismissed without comment. That part of the book devoted to cystoscopy and urethroscopy is modern, and bears the stamp of personal experience.

Medicolegal

Evidence Barred in Nymphomania Case

The Court of Criminal Appeals of Texas holds, on the appeal of Jenkins vs. State (131 S. W. R., 542), a prosecution for rape on a female under the age of consent, that whether the prosecuting witness was laboring under the disease of nymphomania could not be established by the general reputation of the blood relatives in the ascending line. On the trial she had testified that she was about 13 years old; that she had voluntarily entered into the act of intercourse with the accused; that she had been doing such things ever since she was nine years of age, and with a great many persons. An examination by physicians showed a full development of parts, etc., but there was a division of opinion as to whether the girl was a nymphomaniac, as contended by the accused, or not. Whether, if her mother and blood relations were people of inordinate passions, it would predispose the girl to nymphomania, the court does not decide, but merely that there was no error in refusing to permit the accused to prove the general reputation for chastity of the mother and sisters of the girl, as that could throw no light on the issue before the court, because reputation is one thing, and the facts another.

The court also holds correct an instruction which told the jury that if they believed and found from the preponderance of the evidence in this case that the girl, at the time she testified in the case, was laboring under such a defect of reason from nymphomania or other disease of the mind, and under such derangement of the mind, as to render her incapable of receiving a sound mental impression of the transaction regarding which she testified, or if the jury believed that she had the capacity to receive such mental impression as would render it impossible for her to retain and impart such impression correctly, or if she was laboring under such defect of reason from disease and derangement of mind as would render it impossible for her to know and understand the nature and obligation of an oath, then in law she would not be a competent witness, and the jury should disregard her testimony altogether.

Furnishing of Water and Ice by Municipalities to Promote Health

The Supreme Court of Georgia says, in Holton vs. City of Camilla (68 S. E. R., 472), that the object in bringing, by means of a waterworks system, water in pipes from a distance for use in supplying the needs of a city, is not alone to obtain a sufficient quantity, but also to secure that which is freer from impurities than it is possible to obtain in the city itself. And if, in the hot season of the year, the inhabitants of the city must, for sanitary reasons, relinquish the cool draught from the well because, as has been demonstrated, wells of pure water cannot be maintained in populous communities, surely the city would have the right, were it practicable, to cool the water which it delivers through pipes as a substitute, and which ofttimes is scarcely drinkable in its heated condition. If not practicable to cool it in the pipes, and if it be necessary to the welfare, comfort and convenience of the inhabitants that its temperature be lowered before being used for drinking purposes, why cannot the city provide for the delivery of a part of it in a frozen condition, to be used in cooling such part of the balance as is used for drinking purposes? If the city has the right to furnish its inhabitants with water in a liquid form, the court fails to see any reason why it cannot furnish it to them in a frozen condition. If in the hot climate in which the city of Camilla is situated ice is necessary for the comfort, health and convenience of its inhabitants, why should not the city be permitted to furnish ice to its inhabitants? And if the furnishing of ice to its inhabitants is conducive generally to their health, comfort and convenience, it is certainly being furnished for a municipal or public purpose. It is a well-known fact that one of the main uses to which ice is put is the cooling of water for drinking purposes; and when it is used for this purpose, if impure, it is as apt to be deleterious to the consumer as any other impure water. Why, then, in the exercise of its police power, may not a city guard against impurities in the ice, as well as the water, used by its inhabitants? Nor does the court see any rational objection on the idea that the city will be engaging in a manufacturing enterprise. The city might perhaps equally as well be said to be manufacturing when by the use of a filtering process it changes impure water into that which is pure.

Proof of Death

The United States Circuit Court of Appeals, Ninth Circuit, says, in Northern Pacific Railway Co. vs. King and others (181 Fed. R. 913), an action brought by the latter parties to recover for the alleged wrongful death of one H. A. King, that the fact of one's death may be proved by circumstantial evidence, provided the facts and circumstances going to show such death be sufficiently strong. It is also true that under some circumstances the fact of death, as well as of birth, marriage, pedigree and the like, may be proved by hearsay evidence. It has been held by many courts that the death of an individual, though disconnected with any question of pedigree, and for whatever purpose sought to be established, may be proved by hearsay, subject to the same restrictions that are applicable to cases where matters of pedigree are involved. But the court knows of no case which holds that it is competent to prove the basic and controverted fact by hearsay testimony, pure and simple, under circumstances like those presented here, where the accident resulting in the injury of H. A. King had but recently occurred, and whether or not it resulted in his death was susceptible of easy proof. As a matter of course, no inference of his death could be properly drawn merely from his injuries and the amputation of one of his legs, it having been affirmatively shown that he survived such injuries and amputation for a week or ten days.

Employment of Physician by One Member of County Board

The Supreme Court of Oklahoma holds, in Mahr vs. Board of County Commissioners of Pottawatomie County (110 Pac. R. 751), that one member of a board of county commissioners cannot bind the county to pay for the services of a physician in attending on the poor without first having been authorized thereto by the majority of said board whilst in session. The plaintiff set forth that the defendants were indebted to him in the sum of $423 for professional services as a physician and surgeon rendered and performed in giving medical care to the poor and paupers and county charges in the city of Shawnee and vicinity thereof. He further alleged that all and each item of such services were rendered in case of an emergency, that is, in which the patient was in absolute need of medical attention, and at the time of the rendition of such services there was no physician in the employ of the city of Shawnee and vicinity, and that in each the services were performed at the instance of one of the commissioners of said county, said city being within his district. But the court, for the reason first above stated, holds that a demurrer was properly sustained to this cause of action, as it was not alleged that, by any resolution of the board of county commissioners, this one commissioner was authorized to employ the plaintiff to perform the services herein sued for.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
California, Medical Society of State of, Santa Barbara, April 18.
District of Columbia, Medical Association of, Washington, April 25.
Georgia, Medical Association of, Rome, April 19-21.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Medical Society of the Missouri Valley, St. Joseph, Mo., March 16-18.
Mississippi State Medical Association, Jackson, April 11.
New York, Medical Society of the State of, Albany, April 18.
South Carolina Medical Association, Charleston, April 19-21.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

The President, DR. J. A. WITHERSPOON, Vanderbilt University, Nashville, Tenn., in the Chair

A list of the officers elected at this meeting was published in THE JOURNAL, March 4, 1911, p. 678.

The following amendments to the constitution were adopted:

Amendments

ARTICLE III: SECTION 1.—Every college holding membership in this association shall, on and after Jan. 1, 1912, require for matriculation a completed or unconditioned medical student's certificate, to be granted by a state medical examining and licensing board, or a board empowered by statute to grant such certificates, or a certificate of entrance to the academic department of any state university, or a certificate of entrance to an accredited university or college, providing that said certificate is granted on no less than the following requirements:

(a) A baccalaureate degree from an accredited college or university.

(b) and (c) Unchanged.

(d) and (e) Eliminated.

SECTION 2. This examination must be conducted by or under the authority of the board of medical examiners of the state in which the college is located, or by a duly authorized examiner of the college entrance examination board, or the authorized examiner of an accredited university, state or otherwise, or by an examiner whose certificates are accepted by accredited colleges or universities, or by a method approved by the judicial council of this association.

SECTION 3. The term "accredited" as applied to high schools, academies, colleges and universities means institutions of that type that have been investigated and are accredited by the State University of their respective states, or by the North Central Association of Colleges and Secondary Schools, the Association of Colleges and Preparatory Schools of the Southern States, the Association of Colleges and Preparatory Schools of the Middle States and Maryland, the New England College Entrance Certificate Board, the Association of American Universities and the Association of State Universities, provided that such accrediting is based on Article III, Section 1, of this constitution.

SECTION 4. Colleges in membership in this association may honor the official credentials presented by students from other colleges having the standard requirements maintained by members of this association, excepting for the fourth year of their course, but no member of this association shall admit a student to advanced standing without first communicating with the college from which such student desires to withdraw, and receive from the dean, secretary or registrar of such college a direct written communication certifying to the applicant's standing. Credit for time or scholarship cannot be given beyond that of the college issuing the credentials, except by mutual agreement between the colleges.

SECTIONS 5, 6 and 7. Unchanged.

SECTION 8. Each student shall be obliged to attend not less than 80 per cent. of the exercises in every annual course of study for which he seeks credit. No student shall be given credit on examination unless he attains a grade of at least 70 per cent. or its equivalent in any other marking system. And no student shall be graduated unless he shall have attained a passing grade in each and all subjects of the required curriculum.

ARTICLE V: SECTION 1.—The entire course of four years shall consist of at least 4,000 hours for each student, and shall be grouped in divisions and subdivided into subjects; each division and subject to be allotted the number of hours as shown in the following schedule:

DIVISION 1.—ANATOMY, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Gross anatomy (including applied anatomy)	510	120	390
(b) Histologic and microscopic anatomy	135	30	105
(c) Embryology	75	30	45

DIVISION 2.—PHYSIOLOGY AND CHEMISTRY, 600 Hours (15 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Inorganic chemistry	180	60	120
(b) Organic chemistry	75	30	45
(c) Physiologic chemistry	104	30	75
(d) Physiology	240	140	100

DIVISION 3.—PATHOLOGY, BACTERIOLOGY AND HYGIENE, 450 Hours (11.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Bacteriology	135	30	105
(b) Hygiene and general dietetics	45	45	...
(c) Pathology	270	60	210

DIVISION 4.—PHARMACOLOGY, MATERIA MEDICA AND THERAPEUTICS, 240 Hours (6 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Pharmacology	105	40	65
(b) Materia medica and pharmacology	80	...	...
(c) Therapeutics	55	...	...

DIVISION 5.—MEDICINE AND MEDICAL SPECIALTIES, 970 Hours (24.25 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General medicine (including clinical microscopy)	640	...	...
(b) Pediatrics	150	...	...
(c) Nervous and mental diseases	105	...	...
(d) Jurisprudence, ethics and economics	30	...	...
(e) Dermatology and syphilis	45	...	...

DIVISION 6.—SURGERY AND SURGICAL SPECIALTIES, 720 Hours (18 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) General surgery	510	...	...
(b) Orthopedic surgery	45	...	...
(c) Genito-urinary diseases	45	...	...
(d) Eye	60	...	...
(e) Ear, nose and throat	60	...	...

DIVISION 7.—OBSTETRICS AND GYNECOLOGY, 300 Hours (7.5 Per Cent.)

	Hours.	Lect. Rec. Dem.	Lab. Wk.
(a) Obstetrics	195	...	...
(b) Gynecology (including some abdominal surgery)	105	...	...

Colleges may reduce the number of hours in any subject not more than 20 per cent., provided that the total number of hours in a division is not reduced. Where the teaching conditions in a college are best subserved, the subject may be, for teaching purposes, transferred from one division to another. When didactic and laboratory hours are specified in any subject laboratory hours may be substituted for didactic hours.

SECTION 2. Each college in membership in this association shall print in every annual catalog or announcement a table of the total number of hours' work given in said college arranged both by subjects and years.

SECTION 3. Each college in membership in this association shall print annually a list of its students by classes.

ARTICLE VIII: SECTION 1.—The stated meetings of this association shall occur annually at such place as the association may designate by vote, the time of meeting to be set by the officers and judicial council of the association.

(To be continued)

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 22, 1911

The President, DR. C. B. LONGENECKER, in the Chair

DR. T. J. O'DRAIN read a paper on "Ischemia versus Bier's Passive Hyperemia."

DR. ROBERT H. IVY, read a paper on "Industrial Phosphorus Poisoning."

Breaking Down of Wounds Following Operations

DR. JOHN J. GILBRIDE: The breaking down of wounds following operations is caused by infection. Since the application of iodin for sterilizing the skin it is also used by surgeons in the preparation of their hands. One of the best means of preventing suppuration of wounds is to have them dry. The unnecessary use of hemostatic forceps which "chew" and devitalize the tissues should be avoided. Iodin catgut is now much in favor. The use of large-sized suture material is undesirable. Undue tension should not be placed upon the sutures nor should they be placed too closely together. The so-called stitch abscess has occurred, in my experience, most frequently when the cutaneous stitches were left in for a longer period than three or four days. I further believe that not a few wounds, by displacement of dressings, hands of patients, etc., become infected subsequent to operation. It is not possible to prevent all wounds from breaking down, but perhaps, by a little closer application of old facts one may lessen the number of wounds that break down through infection.

DISCUSSION

DR. JOHN A. MCGLINN: All of us who have no fear of telling the truth have trouble with our wounds. Doubtless since the use of iodin, infections have been less. The fewer assistants a man has when operating the less likely is he to have infection. The use of retractors is also a factor in the production of infection. It is much better to have the patient well relaxed and have the incision sufficiently large than to have the sides of the incision forced back with retractors. In dealing with pus cases in the pelvis it is advisable not to have great pressure on the sutures.

DR. L. JAY HAMMOND: It has always seemed to me that a potent factor in wound infection is an excessive amount of dressing applied over the abdomen, and for a number of years I have made this dressing rather scant, using only sufficient to cover thoroughly the surface and not to add to body temperature. My feeling regarding the iodin treatment is that it has no advantage over other methods, and is only an additional agent to trust to the hands of our nurses who are already overburdened with technic. For fear of strangulation of tissue, I use as few sutures as possible, and, when the abdominal walls are not too fat, I prefer the use of the through-and-through suture.

Tinea Favosa

DR. LEONARD D. FRESCOLN: This is a vegetable parasitic infectious disease, generally of the scalp, called contagious by most text-books, but better limited to the term infectious according to modern terminology; not taken from mere surrounding atmosphere of patients and not very readily, as seen in the hospital, from living long with patients. The etiologic factor known is the *Achorion schönleinii* found in 1839, and named by Remak. Many of the mycelia and spores make up the characteristic "scutulum," a sulphur-like cup having the odor of mice, from which the disease may be contracted. Some cases have involvement of parts other than the scalp, as nails, trunks, knees (Fox) and mucous membrane (Kaposi). The affection is liable to be confounded with ringworm. Apart from the characteristic lesions of favus the microscope shows the large mycelium branching and broad spores. The disease is said, by Peyritsch, to take from three to six weeks for its development. It is very refractory to treatment, some cases lasting years; bald spots are a frequent evidence of the disease. In treating we soften the lesions with 5 per cent. carbolized petrolatum, epilation is practiced, sulphur or chrysarobin preparations are used. The best treatment is a long Roentgen-ray exposure repeated. Carbon-dioxid snow has been used with uncertain results. I recently excised a lesion to hasten cure. Favus is one of the deportable diseases, with a fine, in the United States. If a patient is not at once deported he must be under treatment until cured and remain so a month at least. Crocker says: "The disease may be considered cured when after six weeks' discontinuance of treatment there is no localized scaliness." Of course, some cases are very pitiable, but care must be exercised in handling immigrants. Twenty-six of forty-eight patients at our hospital were Russians; average age, 13½ years.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

February 23

1 *A Review of the Midwife Situation. A. B. Emmons and J. L. Huntington, Boston.
2 *Dislocation of the Hip and Its Reduction by the Method of Bigelow. G. H. Monks, Boston.
3 A Case of Ovarian Pregnancy. E. B. Young and L. J. Rhea, Boston.
4 Symptomatology of Abscess of the Liver. W. C. Quinby, Boston.
5 Disappearance of a Catheter in the Bladder and Its Subsequent Spontaneous Passage. W. E. Wilson, Pawtucket, R. I.

March 2

6 Studies in Intestinal Disturbances in Children. W. E. Fay, Boston.
7 *Bacillary Dysentery. A. I. Kendall, Boston.
8 *Infectious Diarrhea. H. Bowditch, Boston.
9 *Silver Nitrate Irrigations in Treatment of Infectious Diarrhea in Infants. R. M. Smith, Boston.
10 Analysis of 178 Cases of Infectious Diarrhea in Infants. J. H. Young, Newton, Mass.
11 The Flora of Bacillary Dysentery. A. I. Kendall and A. W. Walker, Boston.
12 *Two Methods of Obtaining Human Milk for Hospital Use. F. B. Talbot, Boston.
13 *Diarrhea in Infants Associated with the Gas Bacillus in the Stools. A. I. Kendall and R. M. Smith, Boston.
14 Double Otitis Media. Dehiscence of the Floor of the Cavum Tympani. Streptococcus Meningitis. D. W. Drury, Boston.
15 A Case of Intussusception. B. Vincent, Boston.
16 A Method of Collecting Urine from Female Infants. C. H. Lawrence, Boston.

1. **The Midwife Situation.**—In reviewing the midwife situation abroad and in this country, Emmons and Huntington found two standards of skill and a divided responsibility. The midwife must either be a competent, trained obstetrician, or she must become a subordinate, cooperating with the obstetrician, as does the trained obstetric nurse, relying on his judgment and leaving with him the responsibility of the two lives, before a system harmonious and satisfactory can result. The authors believe it to be the duty and the privilege of the obstetricians to safeguard the mother and child in the dangers of childbirth. The obstetricians are the final authority to set the standard and lead the way to safety. They alone can properly educate the medical profession, the legislators and the public. A resolution of the Women's Municipal League

awaits only a formal endorsement to urge the importance of legislation, not for the licensing and regulating of the midwife, but for such minor changes in the laws as will make the present statutes effective in dealing with the midwife in Massachusetts. It has remained for this and other charitable organizations to point out the necessity for bettering obstetric conditions in the state. Let the medical profession, they urge, not only cooperate with these forces for good, but let obstetricians consider well the situation in obstetrics throughout the state to-day; let them look into the future and consider means of furnishing efficient trained service to rich and poor alike.

2. **Dislocation of the Hip.**—The points especially emphasized by Monks are (1) for practical purposes, all regular dislocations of the hip are, in reference to the acetabulum, either posterior or anterior; and (2) whichever the dislocation, an imaginary arrow on the exposed surface of the lower leg pointed toward the flexed knee will, in case the Bigelow method of replacement is to be used, remind the surgeon during the flexion whether to make the knee describe an inward or an outward curve.

7. **Bacillary Dysentery.**—It has been shown that bacteria acting on protein (nitrogenous substances), in the absence of fermentable carbohydrate, form putrefactive products, some of which may be very toxic. The dysenteric flora is essentially putrefactive in character. These products are absorbed in part, at least, from the alimentary canal, paired in the liver and excreted through the kidneys. The patient, therefore, in receiving no food, is being poisoned by the bacterial products elaborated in the intestinal tract, and attempting to detoxicate and excrete these substances in addition to maintaining the normal vital functions of respirations, heart beat and so on. Realizing these conditions, Kendall proposes feeding such patients from the start with carbohydrate. The principle involved is a twofold one: to furnish an easily assimilable and readily fermentable carbohydrate to change the character of the bacterial activity in the alimentary canal from the proteolytic to the fermentative type, and to furnish nourishment to the patient. The patient is first given a dose of castor oil or other cathartic to clean out the intestinal tract thoroughly. All food except sterile water is withheld for from twelve to fifteen hours to facilitate this cleaning out. Lactose, 5 per cent. solution in sterile water, is then fed by mouth for several days, until the acute symptoms abate, or until it becomes apparent that the patient requires some nitrogenous food. Whatever nitrogenous food is selected must be given cautiously, in small amounts, simultaneously with an excess of utilizable carbohydrate to protect it from bacterial attack. The lactose should be fed in rather small amounts, often repeated, to keep up a stream of this sugar in the alimentary canal, otherwise the proteolytes will be able to attack whatever nitrogenous substances may be present in the alimentary canal between the doses of lactose. Dextrose (Kahlbaum's) may be infused, preferably as a 2.5 per cent. solution in physiologic salt solution to bring to normal the dextrose content of the blood and to furnish fluid to the patient. This feeding of lactose is intended to accomplish a twofold purpose: to furnish to the host a readily assimilable food, requiring a minimal expenditure of energy to metabolize it, and to change the character of the metabolism of the dysenteric flora from the proteolytic to the fermentative type. This change in the type of the intestinal flora is particularly desirable to prevent further intoxication of the host and to give him a better chance to combat the poisons already absorbed.

8. **Infectious Diarrhea.**—The plan of treatment outlined by Bowditch is based on a trial in thirty-nine cases of children, from 3 to 16 months of age. They were not taken "*in serium*," but were chosen where some hope of life and chance for study existed. Of these, practically 50 per cent. died (nineteen). The duration of disease on admission varied from one to sixty days (an average of twelve) in the fatal cases; of those who recovered, from one to twenty-eight days (an average of eight days). Treatment was divided into: (1) the initial attack on the specific organisms and their resultant symptoms; (2) treatment of supplementary symptoms and supportive treatment. The former consisted of catharsis, using castor oil, calomel and sodium sulphate, colonic irrigations with normal saline solution, plus lactose or dextrose, adding silver nitrate or tannic acid, if necessary—gastric lavage only when necessary. Temporary abstinence from all nutrition is imperative. This period lasts theoretically until the infection has subsided, temperature has fallen and the nervous irritability of the gastro-intestinal tract has improved. During this time ingestion of water is necessary to keep the fluids of the body and blood as normal as possible. Boiled water amounting to the quantity of food usually ingested is given by mouth. Lime water and alkalies have been added according to the digestion.

Of the thirty-nine children herein reported, all received sterile water for not more than three days (an average of two) in contrast to the usual prolonged starvation. After this short interval they received 5 per cent. lactose. Of the twenty discharged well and the nineteen who died, fourteen and ten, respectively (58 per cent.), received lactose up to 5 per cent. for an average of eight days. Seven of these died during the treatment. The temperature fell in seventeen and remained stationary or increased in seven. The movements diminished in thirteen and increased in eleven. Blood was increased in seventeen and diminished in five. Of those who recovered, an average of 25 ounces of sterile water was well taken, while barely 17 ounces was ingested by those who died. Lactose solution (5 per cent. administered for an average of eight days) was readily taken by all to an average quantity of 36 ounces. Of the remaining fifteen, two died before lactose administration was given. Six received whey (an average of 40 ounces in six days), while the remaining seven were given various foods and subsequently died. Seven of the twenty who recovered received at first dilutions of sterilized fat-free milk strengthened slowly to whole milk; three got whey at first, later straight dilutions of milk; five got buttermilk, and three got straight dilutions of sterilized milk to whole milk. Of the ten fatal cases that continued through the lactose administration, no definite result in regard to food can be stated. The majority of the children succumbed to the too early administration of milk or too rapid change of nourishment. The reason for the too early giving of food was the necessity for some nitrogenous nourishment to sustain life. Toxemia was fought largely symptomatically. The stimulants were mostly given hypodermically. Brandy was seldom used. Strychnin, from 1/250 to 1/500 grain, was given when cardiac failure was imminent. Bowditch says that lactose and dextrose in the irrigations gave no demonstrable therapeutic value, and that dextrose infusions were certainly an improvement.

9. **Treatment of Infectious Diarrhea in Infants.**—During the last season at the Boston Floating Hospital colon irrigations of 3 per cent. silver nitrate were employed in the treatment of infants ill with infectious diarrhea. The technic of the irrigation did not differ essentially from that of ordinary irrigations. Smith says that it is advisable, however, to clean the rectum, and as much of the colon as possible, before using the silver nitrate solution. A cleansing irrigation with sterile water is given and continued until the water comes back clear. Salt solution should not be used for this preliminary cleansing, since the sodium chlorid forms with the silver nitrate an insoluble silver salt which is precipitated and the strength of the silver solution is weakened. When the cleansing has been completed, 1 pint of a 3 per cent. silver nitrate solution is allowed to run into the colon and the tube then withdrawn. Some of the solution will be expelled, but no attempt is made to recover the entire amount used. In adults there is considerable pain after the injection, but none of Smith's patients showed any marked evidence of discomfort.

The treatment was used in thirty-two cases. None of the patients was in any way harmed by the treatment. Three infants showed a rather severe reaction, but it was only temporary in character. In twenty-two of the cases, treatments were given early in the disease. Eighteen of these patients were improved by the procedure, eleven markedly so, and seven slightly. Six patients were given the injection late in the disease; three, or one-half, were benefited. In six cases no report can be made. Smith claims that in a certain number

of cases of infectious diarrhea in infants, an early colon injection of 3 per cent. silver nitrate solution apparently hastens the disappearance of blood and pus from the stools and shortens the course of the disease. In some late cases, when blood and pus persist in the movements, the ulcers can be stimulated by silver nitrate injections and the stools cleared.

12. **Two Methods of Obtaining Human Milk for Hospital Use.**—The hospital of the Massachusetts Infant Asylum, which uses the method of most foreign hospitals, has resident wet nurses who are part of the organization of the institution. These women are secured from other charitable institutions, and from the lying-in hospitals. They are not permitted to do any heavy work or scrubbing, but should only dust a certain number of rooms and do their own washing. They are allowed to have as much as they want of a liberal diet, which costs the hospital from 43 to 45 cents a day for each person. The milk of these wet nurses is used in two ways: (a) The milk is drawn with breast pumps for the very weak and delicate babies. It is placed in sterile jars and kept in an ice-chest until used. (b) The stronger babies are put to the breast. The amount of milk taken is recorded by a trained nurse, who weighs the baby before and after the nursing. The women are paid according to the amount of milk they supply, at the rate of 2 cents an ounce for "drawn breast milk" and 1 cent an ounce for nursed breast milk, up to a limit of $16 a month. The Boston Floating Hospital collects the milk from nursing mothers in the tenement district. Precautions are taken to have the milk drawn in a cleanly manner and put in sterile bottles and then kept at a low temperature. The women are paid at the rate of 60 cents a quart.

13. **Diarrhea in Infants Associated with the Gas Bacillus in Stools.**—In the opinion of the authors there exists a group of diarrhea in infants impossible to differentiate clinically from infectious diarrhea caused by the dysentery bacillus. These cases are associated with the presence of large numbers of gas bacilli in the stools. The bacilli occur in such numbers and in such relations that it seems reasonable to believe that they are the etiologic factor of the diarrhea. This diagnosis, when made, gives the indication for treatment with buttermilk.

Medical Record, New York

February 25

17 Preliminary Report of Cases of Syphilis Treated by Salvarsan. C. H. Chetwood, New York.
18 *A Simple Method for Relief of Certain Forms of Odynphagia. P. T. Hald, Copenhagen, Denmark.
19 *A Case of Aneurysm of the Heart. J. B. Betts, Buffalo, N. Y.
20 Stock Vaccines in Acute Gonorrhea. F. A. Palmer, Morris, Ill.
21 Gastric Ulcer: Hemorrhage, Operation, General Peritonitis, Vaccine Therapy. J. R. Verbrycke, Washington, D. C.
22 *Melted Iodoform Ointment in Treatment of Suppurative Bubo and Ischiorectal Abscess. H. A. Royster, Raleigh, N. C.
23 *Is Cancer Contagious? G. D. White, Jersey City, N. J.
24 A Case of Multiple Pregnancy with Eclampsia. E. A. Griffin, Brooklyn, N. Y.

March 4

25 Resection of the Posterior Roots of the Spinal Nerves to Relieve Pain, Pain Reflex, Athetosis and Spastic Paralysis—Dana's Operation. R. Abbe, New York.
26 Diagnosis of and the Feeding in Gastric Ulcer. W. G. Morgan, Washington, D. C.
27 Appendicitis and Its Moving Pathology. G. K. Dickinson, Jersey City, N. J.
28 Vaccination in the Philippine Islands. R. Olesen, Manila, P. I.
29 Bilateral Nephrolithiasis; Left Nephrolithotomy. L. B. Bangs, New York.
30 Short Talks with My Students and Others; Being Random Suggestions for the Younger Practitioners. R. H. Dawbarn, New York.

18. **Method for Relief of Odynphagia.**—Some time ago Howell claimed that relief of laryngeal pain may be secured by firm pressure on the ears and mastoid region in swallowing. Hald tried this method in thirty-three cases of inflammatory diseases of the tonsils and their surroundings. In twenty-four cases pain was considerably relieved by pressure against the tragus, or against the upper part of the mastoid. Tragus pressure was most efficient. He explains the process by supposing that it exercises a strong counterirritation of the skin area, whose sensitive nerve supply is in intimate relation to the sensitive nerve supply of the diseased tonsil. He limits the area to the lateral portion of the posterior meatal wall.

19. **Aneurysm of the Heart.**—In Betts' case the aneurysm arose from a gradual occlusion of the coronary artery by atheromatous changes. There was extreme generalized arteriosclerosis, not caused by syphilis. The diagnosis was made post mortem.

22. **Melted Iodoform Ointment in Treatment of Suppurative Bubo.**—The principle of the treatment employed by Royster is that of attempting to promote resolution of the inflamed glands, to secure rapid pointing, if suppuration occurs, and, finally, to evacuate the pus and fill the cavity with melted iodoform ointment. When the inguinal swelling first begins, daily application is made of a salve composed of equal parts of pure ichthyol and the official ointments of iodin, mercury and belladonna. A small portion of this is rubbed in well and another portion spread thickly on a gauze dressing, which is held tightly against the area by a spica bandage. If absorption fails to take place and breaking down ensues, as generally happens, the following procedure is carried out, when the suppuration is at its height. A spot on the softest and most prominent part of the swelling is infiltrated with a 1 per cent. cocain solution and a very small incision made here with a bistoury—an opening just large enough to let out the pus. When the cavity has been emptied by the aid of pressure it is washed out two or three times with hydrogen peroxid, diluted one-half with sterile water, followed by flushing with sterile water alone. For these washings an ordinary glass piston syringe is used. A quantity of 10 per cent. iodoform ointment is now melted (it can conveniently be done in a large spoon over a gas, alcohol or oil flame), sucked up into the same syringe, and injected into the suppuration cavity with some force, so as to completely fill it. Over this is immediately placed a cold bichlorid of mercury gauze compress, which is retained by the spica bandage, as before. The dressing is not disturbed for five days. At the end of this time it is removed and the excess of ointment is squeezed out; if any pus remains a second injection of ointment is made; otherwise the gauze and bandage are reapplied for some days longer. In the majority of cases one treatment suffices to cure. Ischiorectal abscess, while not at all related to bubo, affords an opportunity of applying the method just outlined, thereby saving the patient time and trouble.

23. **Is Cancer Contagious?**—White reports five cases of cancer, four of which terminated fatally, three occurring in one house and two in another; all the patients were blood relations or lived in close contact with one another, as husband and wife. All have been infected within five years.

New York Medical Journal

March 4

31 Treatment of Syphilis by Intravenous Injections of Salvarsan. A. G. Rytina, Baltimore.
32 Oily Suspensions of Salvarsan. S. Pollitzer, New York.
33 *Diet in Heart Disease and Arteriosclerosis. L. F. Bishop, New York.
34 *Are We in Danger of Trachoma? A. Brav, Philadelphia.
35 Forecasts of Medical Practice in the Future. T. D. Crothers, Hartford, Conn.
36 *Operative Technic of Acute Suppurative Appendicitis. W. Bartlett, St. Louis.
37 Acute Amygdalitis. N. Settel, New York.
38 Prolonged Epistaxis Associated with Increased Vascular Tension. H. Hays, New York.
39 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

33. **Diet in Heart Disease and Arteriosclerosis.**—The importance of proper diet in heart disease is emphasized by Bishop. He says that in acute heart disease, the simplest and best diet to begin with is a milk diet, but that must very soon be supplemented by other simple and nutritious foods. In chronic heart disease the quantity of food should be reduced to the amount necessary for the maintenance of the body, the weight, and strength. The food should be divided into five small meals, the largest meal being taken in the middle of the day. The food should also be as dry as possible. In considering a specific choice of diet in heart disease, he divides the cases sharply into two classes. There are those cases in which, on account of a lesion of the heart of a mechanical nature, the welfare of the patient depends on the maintenance of a healthy heart muscle, able to do an extra amount of work. In these cases the problem is the same as that presented by patients suffering with tuberculosis or any other condition in which

the maintenance of health depends on the maintenance of resistance. In these cases, also, diet must be reasonable, but there is no necessity for careful chemical observation. The second class of cases, and the one which Bishop considers, is that in which the heart trouble is part of a general cardiovascular disease, and is of chemical, or at least toxic, origin.

34. **Trachoma.**—Brav feels that the data with reference to the contagiousness of trachoma are exaggerated. He is convinced that trachoma is not so contagious as it has been thought to be, and that it is a curable disease. Only neglected cases terminate in a reduction of vision. In this country, it never leads to total blindness, except, perhaps, among the Indians. Inasmuch as there is no trachoma problem in our country, laws on this subject, he thinks, need not be oppressive. Trachoma is not on the increase, but rather on the decrease. To create fear among the laity to the existence of imminent danger resulting from trachoma, which is purely imaginary, Brav believes, is entirely unscientific and harmful to the best interests of the community.

36. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298.

Lancet-Clinic, Cincinnati

March 4

40 The Time Element in Operations. C. A. L. Reed, Cincinnati.
41 Gonorrhea, the Problem. W. S. Ehrich, Evansville, Ind.
42 Approximation of Widely Separated Wound Margins. J. R. Eastman, Indianapolis.

Journal of the South Carolina Medical Association, Charleston

January

43 The Hyperemic Treatment. G. E. Thompson, Inman.
44 The Anesthetist. J. B. Townsend, Anderson.
45 Operation for Correcting the Deformity of Undeveloped Lower Jaw or Receding Chin. R. S. Cathcart, Charleston.
46 Eye and Ear Troubles that Pertain to General Diseases. L. O. Mauldin, Greenville.
47 The Alkaline Treatment in Typhoid. R. E. Yellott, Lynchburg.

Bulletin of the Johns Hopkins Hospital, Baltimore

February

48 Relation of the Amnion to the Origin of Human Malformation: Necrosis of the Pancreas. Spondylolisthesis. H. Chiari, Strassburg, Germany.
49 Diabetic Acidosis. A. Magnus-Levy, Berlin.
50 Bacteriology of Baltimore City Water. W. W. Ford, Baltimore.
51 *Case of Congenital Deformities: Patent Ductus Botalli; Absence of Left Kidney and Chronic Peripheral Edema. C. R. Kingsley, Baltimore.
52 Transverse Fracture of the Body of the Ischium in 1893; Terminal Displacement in 1902; Diagnosticated in 1909. N. W. Sharpe, St. Louis.
53 Peritonsiliar Abscess. M. Warfield, Baltimore.

51. **Congenital Deformities.**—The interesting points in the necropsy findings of Kingsley's case were a very inconspicuous thymus, there being practically no tissue where the gland should be; normal heart valves, but an open ductus Botalli, measuring about 1 millimeter in diameter; an acute diffuse cellular myocarditis; no special hypertrophy of the ventricles; scattered areas of bronchopneumonia in both lungs. The left ureter appeared normal at its entrance into the bladder and as far as followed up to the brim of the pelvis. Here it was lost and no remnant of kidney tissue was found in this area. The left adrenal was close to the diaphragm and appeared normal. The right kidney was very large, about the size of two normal kidneys. There was a single distorted pelvis coming from the anterior median portion of the irregular kidney mass, the long axis being nearly parallel with that of the vertebral column and lying almost completely to the right of the vena cava, which crossed over its mesial surface. The kidney looked in no way abnormal. An acute enteritis throughout the ileum was found. The thyroid was small, pale, and uniform on section. The bone marrow appeared normal. Permission to examine the brain could not be obtained.

Southern Medical Journal, Nashville

February

54 The Gamete Carriers. Their Rôle in the Etiology of Malaria. G. E. Henson, Crescent City, Fla.
55 Malarial Manifestations in the Eye. M. H. Bell, Vicksburg, Miss.
56 Value and Limits of Laboratory Diagnosis. A. E. Thayer, Dallas, Texas.
57 A Summary of Cases of Malaria and of Cases Suspected to be Malaria, Examined in the Past Three Years. J. M. Swan, Watkins, N. Y.
58 *The Radical Cure of Malaria. S. Harris, Mobile, Ala.
59 Underlying Causes of the Existence of Soil Pollutions in Rural Districts. C. W. Stiles.
60 The Quick Macroscopic Typhoid Agglutination Test, Its Application and Advantages. C. C. Bass, New Orleans.
61 What Is Heat Exhaustion? W. H. Rennie, U. S. Navy.
62 *Progress Made in Intestinal Surgery, with a Demonstration of a New Method of Suturing the Bowel. A. E. Benjamin, Minneapolis.

58. This article was published in THE JOURNAL, Nov. 26, 1910, p. 1879.

62. This article was also published in the *Lancet-Clinic*, Feb. 11, 1911; abstracted in THE JOURNAL, Oct. 1, 1910, p. 1222.

Surgery, Gynecology and Obstetrics, Chicago

February

63 *Abdominal Myomectomy for Myomata of the Uterus. W. J. Mayo, Rochester, Minn.
64 Inflammatory Tumors of the Abdomen Simulating Malignant Disease. H. A. Bruce, Toronto.
65 Injuries to the Kidneys with End-Results. P. M. Pilcher, Brooklyn, N. Y.
66 Primary Multiple Malignancy. C. B. Davis, Chicago.
67 *Large Ovarian Cysts. J. S. Horsley, Richmond, Va.
68 *Functions of the Great Omentum. I. C. Rubin, New York.
69 Primary Sarcoma of the Appendix; Report of a Case. E. O. Jones, Seattle, Wash.
70 *Calculus in the Ureter. R. C. Bryan, Richmond, Va.
71 Technic of the Radical Abdominal Hysterectomy for Uterine Cancer. R. Peterson, Ann Arbor, Mich.
72 *Operative Method for Exstrophy of Bladder. A. Werelius, Chicago.
73 Abdominal Exclusion of the Fundus in Complete Procidentia. J. R. Eastman, Indianapolis.
74 Open Treatment of Fractures. C. G. Levison, San Francisco.
75 An Efficient Inexpensive Enteroclysis Apparatus. W. A. Dewitt, Philadelphia.
76 A Speedometer for Proctoclysis Apparatus. W. S. Sutton, Kansas City, Kan.
77 An Aid to Radiography of the Urinary Organs. D. N. Eisendrath, Chicago.
78 Legal Aspects of Post-Mortem Cesarean Section. C. S. Bacon, Chicago.

63. **Operation of Abdominal Myomectomy.**—Some interesting mortality data are furnished by Mayo in his review of cases of uterine myomata operated on by himself and Charles Mayo during the past ten years. These statistics include all varieties of operations and the various complications, such as cancer, tubal infections, necrosis and degenerations of the tumor, etc. Every patient dying in the hospital, irrespective of the cause of death or the length of time following operation, is counted as dying from the operation. Total number of operations for uterine myomata, 1,244; deaths, 30, or 2.3 per cent.; number of cases of myomata of the uterus which necessitated total abdominal hysterectomy, usually because of malignant degeneration or acute infection, 66; deaths, 2, or 3 per cent.; number of supravaginal hysterectomies, 900; deaths, 23, or 2.5 per cent.; number of abdominal myomectomies, 157; deaths, one, or ⅔ of 1 per cent.; vaginal hysterectomies, 77; deaths, 2, or 2.75 per cent.; vaginal myomectomies, 50; deaths, 2, or 4 per cent.

67 and 70. Abstracted in THE JOURNAL, Jan. 14, 1911, pp. 140 and 141.

68. **Functions of the Great Omentum.**—As a result of his studies, Rubin claims that the omentum has no spontaneous motility. The displacements of the omentum may be explained by: (a) intestinal peristalsis; (b) intra-abdominal tension; and (c) the static condition of the stomach and colon and of the small intestine; (d) the anatomic relationship of the omentum to the gall-bladder and spleen. The omentum has no demonstrable "chemotaxis." The amount of intraperitoneal fluid plus the amount of gas contained in the large intestine account for this apparent intelligent retreat of the omentum from virulent infective processes. In addition the suction action of the diaphragm under changed conditions of intra-abdominal tension explains the apparent upward "chemotaxis" of the omentum in inflammatory lesions of the upper abdomen. The omentum has no intelligent and spontaneous protective rôle. Such protection as it apparently displays is simply due to its properties as peritoneum, and not as a superior organ with definite functions. It cannot restore vitality to necrotic organs nor vascular supply to those deprived of their circulation. The end-product of an adhesion between the omentum and a foreign body is the destruction of the foreign body; between the omentum and any other abdominal viscus is scar tissue. The omentum does not invariably repair spontaneously defects in hollow or

solid viscera; it does this imperfectly in man. Experimentally, when the rent is not too large, the omentum seems to occlude it and prevent leakage from the intestine. In perforated appendicitis, for instance, while the omentum is present in a great number of cases at the seat of the perforation, peritonitis, due to leakage, nevertheless frequently occurs.

The usefulness of the omentum in inflammatory lesions of the abdomen depends on (a) its power to form adhesions which isolate and render innocuous toxic products; (b) to its power of absorbing and eliminating toxic products or destroying them by virtue of its phagocytic elements. But when contrasted with the sequelæ, intestinal obstruction, pain, etc., its beneficence is overbalanced. The chief functions of the omentum are those of any other mesentery, namely: (a) fixation of viscera; (b) vascular supply. When the omentum is found adherent to an intra-abdominal tumor the probabilities are that the mass is inflammatory, and not neoplastic. If the tumor is adherent to a neoplasm, the tumor invariably has undergone inflammatory changes. (Ovarian dermoids.) In exploratory gall-bladder operations it is well to remember that an "adhesion" between this viscus and the omentum does not necessarily mean inflammation. The adhesion may be a normal mesentery of the gall-bladder, contributed by the omentum. Care should be exercised, therefore, in the examination of the adhesion before it is unnecessarily separated, and before the gall-bladder is removed. The best method of preventing adhesions between abdominal incision and omentum consists in the application of a continuous peritoneal catgut suture. Areas of the abdominal cavity uncovered by peritoneum lead almost invariably to adhesion formation. The omentum is capable of absorbing large quantities of fluid and particles in suspension. Large particles are attached in a purely mechanical way. Too much should not be expected from grafts of the omentum. A detached piece of omentum rapidly becomes necrotic, and is useless. Only intact portions of the omentum produce serviceable adhesions.

72. **Operative Method for Exstrophy of the Bladder.**—The operation devised by Werelius is done in two stages: The first stage consists of the formation of an artificial bladder (urodenum). The operative field (left abdominal side), after ordinary preparations, is painted with tincture of iodin and protected from the area of exstrophy by placing an adhesive strap obliquely across the lower abdomen and over a towel covered with oiled silk, which is then turned over the exposed bladder, completely excluding it from the operative field. The patient is then tilted over on his right side to allow the urine to flow away from the working area, and also to get the small gut out of the way. An oblique incision is then made in the left inguinal region, much the same as for appendectomy on the opposite side. The sigmoid is delivered through the wound and divided about 7 inches above the rectosigmoidal junction and the proximal end anastomosed to the upper part of the rectum, leaving a future artificial bladder about 6 inches long. The abdomen is closed in the usual manner without drain. In the second stage, a flap of bladder containing the ureters is dissected and all of the bladder mucosa is cut away. Through a median abdominal incision the intestinal pouch is exposed and partly delivered through the wound and clamped with rubber-covered forceps. The clamped gut is opened into the lumen. The bladder flap is then approximated to the intestinal opening and sewed to the edge, through and through with linen. The opposite edge is sewed with a Connell stitch, so that, when finished, the gut somewhat overlaps the bladder flap. If the intestinal tissue is abundant, serosa may be drawn over so as to cover the flap completely. The abdomen is closed, with gauze drain *in situ*.

New York State Journal of Medicine

February

79 Tuberculous Peritonitis. N. Jacobson, New York.
80 Dermatologic Observations of Interest to the General Practitioner. J. M. Winfield, Brooklyn, N. Y.
81 Infant Mortality in Greater New York. A. E. Shipley, Brooklyn, N. Y.
82 v. Mikulicz Disease. W. Lintz, Brooklyn, N. Y.
83 Sacral Suspension of the Uterus. J. VanD. Young, New York.
84 Mistakes in the Use of Obstetrical Forceps. J. M. H. Rowland, Baltimore.
85 The Physician and the Mental Development of the Young. P. W. T. Moxom, Brooklyn, N. Y.
86 Recognition and Treatment of Acute Mastoiditis. G. H. Rockwell, Syracuse, N. Y.
87 The Medical Profession as Related to the Community, State and Nation. T. D. Mills, Middletown, N. Y.
88 International Commission on Control of Tuberculosis Among Domestic Animals. M. H. Reynolds, New York.

American Journal of Medical Sciences, Philadelphia

March

89 *Presence of a Venous Hum in the Epigastrium in Cirrhosis of the Liver. W. S. Thayer, Baltimore.
90 Diagnosis of Duodenal Ulcer. W. F. Cheney, San Francisco.
91 *Traumatic Diabetes in Children. I. A. Abt and S. Strouse, Chicago.
92 *Biot's Breathing. L. A. Conner, New York.
93 Myogenic Doctrine of the Cardiac Activity and Its Relation to Arrhythmia. J. H. Musser, Philadelphia.
94 *Interrelations of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
95 Acetabular Fracture with Intrapelvic or Central Dislocation of the Femoral Head. W. Fuller, Chicago.
96 *Congenital Syphilis of the Heart. A. S. Warthin, Ann Arbor.
97 Personal Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kaliski, New York.

89. **Cirrhosis of the Liver.**—A venous hum, accompanied sometimes by a well-marked thrill, has been detected by Thayer in the epigastrium in some instances of hepatic cirrhosis. He says that the thrill and murmur may be appreciable: (a) directly over the extensive cutaneous varicosities, or (b) in instances where there is little or no external evidence of venous engorgement. In most of the cases in which an epigastric venous hum has been heard in cirrhosis, in the absence of cutaneous varicosities, the sound has been audible best about the umbilicus and along the median line in the epigastrium—in other words, along the course of the round ligament. In a few of these instances it has been found that the incompletely closed umbilical vein has become greatly dilated as a result of increased portal pressure. In others, a large dilated vein has been found in the round ligament running alongside of the obliterated umbilical vessel—doubtless a dilatation of a small para-umbilical vein. Thayer points out that these murmurs should be distinguished from the slight venous hum sometimes heard in the anemic just above and to the right of the umbilicus, over the inferior vena cava—murmurs which may be brought out by pressure in thin individuals. These murmurs are said to disappear in some cases with pressure on one or another femoral vein (Friedreich). A venous hum has been described in Traube's space and in the left side of the epigastrium in the angle between the large liver and spleen in cirrhosis (v. Jacksch, 1899) and in splenic enlargement (Piazza-Martini, 1898), which may arise in a varicose splenic vein. A well-marked thrill and an intense venous hum may be heard in hepatic cirrhosis over a limited area in the epigastric notch, in the immediate neighborhood of the xyphoid cartilage, at a point so far above the lower border of the enlarged liver that it cannot depend on currents in a varicose umbilical or para-umbilical vein. Such murmurs may, in some instances, arise in varicose coronary veins (v. Jacksch), while in others, as those observed by Catti and the author, the seat of origin is probably in anastomoses between the roots of the internal mammary and the inferior deep epigastric vessels, very possibly to the entrance into these latter veins of an enlarged para-umbilical-xyphoid vein of Braume.

91. **Traumatic Diabetes in Children.**—Two cases of diabetes are reported by Abt and Strouse in which the glycosuria first came to light after the patients had suffered injury. The first child sustained injuries to the leg and abdomen in an automobile accident; the second child fell from a second-story window, striking on his head. In addition to the possible traumatic origin of these cases, there is an added interest in that both patients continue robust and in good health in spite of the daily elimination of a considerable quantity of sugar. This is in contrast to the text-book descriptions of cases of diabetes in children, which usually relate that in young individuals, more particularly children, diabetes runs a rapidly unfavorable course. It is also of interest to note the effect of the v. Noorden oatmeal diet on sugar elimination and acid retention. The ordinary clinical study of the first case showed an apparent anomaly in the production of an acidosis by the v. Noorden gruel. This point was especially

investigated in the second case. For certain periods the patient was allowed a somewhat restricted diet, containing gluten bread, supposedly starch-free, but actually, on analysis in the laboratory, yielding 32.5 per cent. starch. For the first ten days the food was not measured accurately enough to allow complete figures of food value to be stated; but from March 21 to April 9, each article was carefully weighed and its value computed, mainly from Atwater's tables, partly from analyses made in the laboratory. Very little restriction, except of carbohydrate, was enjoined during the period of liberal diet, and at all times the patient was allowed to roam about the wards, under surveillance, to prevent secret taking of food or loss of urine. The absolute reduction in sugar output as soon as the patient was put on v. Noorden's gruel was striking, and was in perfect accordance with the claims of v. Noorden and the experiences of other workers. In both cases, however, acetone, which was practically never present during the periods of glycosuria, invariably appeared after administration of the oatmeal gruel.

Clinically associated with this were symptoms suggesting acidosis, such as nausea, rapid pulse and headache; the ferric chlorid reaction, however, generally was absent. Since it is very unusual for acidosis to follow the use of v. Noorden's gruel, it was thought that the quantitative determination of the nitrogen and ammonia output might explain the apparent deviation from the usual reported reaction. There was a relative increase of ammonia each time the v. Noorden diet was given, but the nitrogen excretion always fell markedly because of a low protein intake. The figures representing total ammonia vary considerably and are not in agreement with the percentage curve. In fact, during the periods when the ammonia was 10 per cent. of the total nitrogen, the actual ammonia output was lower than it was at any other time during the period of observation. It is probable that the increased ratio is due to the low total nitrogen excretion, corresponding to the sudden diminution in the nitrogen intake. But the figures at the first and last v. Noorden period show an absolute increase of ammonia. After three days of the gruel, 4 grams of ammonia, or 22 per cent. of the total nitrogen, were excreted in the urine, and with the reduction of the glycosuria after the gruel later, the actual as well as the relative ammonia elimination was increased. The use of fresh vegetables and the v. Noorden gruel resulted in raising strikingly the patient's tolerance for carbohydrates and in reducing considerably the degree of acidosis. These two cases of traumatic diabetes ran a milder course than is usually seen in diabetes in children, but otherwise in their urinary and therapeutic reaction they did not differ essentially from cases of diabetes of non-traumatic origin.

92. **Biot's Breathing.**—During the past two years, in the course of a more or less systematic graphic study of pathologic types of breathing, Conner has encountered typical examples of Biot's type of respiration seven times. In six instances it occurred in the course of meningitis; in the seventh, it was found in a child suffering from some intracranial complication of suppurative mastoiditis, the nature of which could not be determined. The characteristic features of this form of respiratory arrhythmia may be stated as follows: (1) periods of apnea, which vary in length and occur at irregular intervals; (2) constant irregularity in rhythm, and in the force of the individual respirations; (3) frequent occurrence of deep sighs; (4) great uniformity of the expiratory level, a point noted by Conner and one not previously described.

94. **Interrelation of Organs of Internal Secretion.**—Hoskins says that most of the available evidence indicates that the thyroid stimulates the adrenals. Hypothyroidism causes hypertrophy in the pituitary, probably due to a vicarious assumption of thyroid function. It is fairly well demonstrated that there is a relation between the thyroid and the gonads, which are probably stimulated to normal activity by the former. The frequent association of abnormal conditions in the thyroid and thymus points toward a relationship between them, but definite evidence on the point is meager and conflicting. The theory that the thyroid inhibits the pancreas is probable, but more data are needed.

96. **Congenital Syphilis of the Heart.**—It is stated by Warthin, that gumma of the heart is rare in congenital syphilis, but that congenital syphilis of the heart, in the form of a localized or diffuse interstitial myocarditis, is most probably not rare. The new criterion is the demonstration of the *Spirochæta pallida* in the proliferating interstitial tissues of the heart wall. Adler could base his diagnosis of syphilis only on the endarteritis. Warthin has shown that the same type of interstitial myocarditis in the absence of coronary endarteritis is syphilitic, by demonstrating that these light-staining patches of proliferating stroma represent localized colonies of the spirochete and that the organism occurs in such patches in extraordinary numbers. The myocarditis described by Coupland, Hektoen and Le Count, Warthin believes to be of the same type, sufficiently localized in the cases reported by the last two writers to be visible to the naked eye and to be interpreted as gummata. In all cases of cardiac disturbances in children, congenital syphilis should be carefully considered as a possible factor.

Warthin's series of cases also show that it can be a cause of asphyxia neonatorum and unexplained sudden death in infancy. Under such circumstances, the possibility of congenital cardiac syphilis must be borne in mind and a thorough microscopic study of the heart carried out. The same thing is true of cases of non-development, infantilism, chronic valvular lesions in children and young adults, etc. For all of these conditions an etiology of congenital syphilis of the heart is possible, and the diagnostic criterion is the demonstration of fibroblastic areas in the heart wall containing colonies of spirochetes. Congenital syphilis of the heart occurs most frequently in the form of a diffuse interstitial myocarditis due to the presence of the *Spirochæta pallida* in large numbers, without ordinarily producing characteristic macroscopic changes so that the absence or presence of congenital cardiac syphilis can be told only by a thorough microscopic examination of the heart wall.

Archives of Diagnosis, New York

January

98 Factors Influencing Mortality in Appendicitis from a Medical Viewpoint. J. M. Anders, Philadelphia.
99 Diagnosis of Acute Anterior Poliomyelitis. L. H. Mettler, Chicago.
100 Diagnosis of Small-Pox. J. M. Armstrong, St. Paul.
101 Diagnosis of Chronic Pancreatic Disease. N. Stadtmüller, New York.
102 Diagnosis of Toxemias Due to *B. Coli Communis*. F. B. Turck, Chicago.
103 Technic of Colonoscopy H. Stern, New York.
104 Diagnosis of Pneumonia. A. A. Eshner, Philadelphia.
105 Differential Diagnosis Between Tumors Located in the Colon and Tumors Located in the Mesocolon. A. L. Soresi, New York.
106 The Duodenal Tube. M. Gross, New York.

Laryngoscope, St. Louis

February

107 *Preparation and Use of Thrombokinase. L. W. Strong, New York.
108 A Case of True Papilloma of the Nasal Septum. H. Arrowsmith, Brooklyn, N. Y.
109 Submucous Resection, with a Description of the Author's Special Instruments. M. Metzenbaum, Cleveland.
110 Sarcoma of the Nasal Wall of the Maxillary Antrum. O. T. Freer, Chicago.
111 Case of Chronic Progressive Bulbar Paralysis. R. H. Good, Chicago.
112 *An Unusual Case of Papilloma of the Larynx. W. W. Carter, New York.
113 *Fatal Case of Quinsy in an Adult. S. W. Prowse, Winnipeg, Man.
114 New Instruments: Antral and Frontal Sinus Illuminator; Frontal Sinus Rasp; Compressed Air Irrigator. J. J. Sullivan, Scranton, Pa.

107. **Thrombokinase.**—Believing that it would be interesting to take animal extracts and use them locally, Strong employed Batelli's method which consisted in extracting the tissue of the lung of the sheep with distilled water or salt solution, and then precipitating it with a very weak percentage of acetic acid; then centrifuging the precipitate, evaporating and adding alcohol to preserve it. He found that alcohol did not render it perfectly sterile, so he tried 1 per cent. thymol, and evaporated the precipitate at a low temperature with the electric fan, and then added an equal bulk of 1 per cent. thymol in alcohol. In order to determine if there was anything specific in the powder, whether it was

different from any other foreign body in its effect on coagulation, Strong conducted a number of experiments noting the coagulation time with rabbit blood, and found that he could secure coagulation within forty-five seconds. He also used various powders, and found that sometimes these delayed clotting rather than hastening it, and sometimes they had no special effect. So, apparently, here was something specific in its action. It did not lose its power when heated dry, but when it was moistened and heated with a very moderate degree of heat, 60 C. for thirty minutes, it became inactive. On that demonstration Strong based his claim of there being a ferment body in this preparation. No clinical data on the use of this substance, which Strong calls "thrombokinase," are available, although it has been used by a number of clinicians.

112. **Papilloma of the Larynx.**—The following are the most interesting features of the case: It gives the natural progress of papilloma of the larynx beginning in infancy and continuing undisturbed by treatment up to the age of 47 years. The very unusual fungoid appearance of the growth (so far as Carter can discover no case like it has been recorded), and the subsequent history are also of interest, whether the patient develops a speaking voice and whether there is a recurrence of the growth. The latter, Carter believes is unlikely, as the growths were thoroughly removed and the patient has passed that age when there is a tendency to warty developments. The larynx before operation was almost completely blocked by fungoid papillomatous masses, the largest of which, attached to the left side of the larynx, acted like a ball-valve and caused almost complete obstruction on inspiration. The edematous condition of the surrounding tissues gave the impression of an active inflammatory process.

It is also worthy of mention that these extensive growths were all removed endolaryngeally. Carter regards the endolaryngeal operation as the ideal one in these cases, and can scarcely conceive of a case of papilloma of the larynx justifying thyrotomy. In operating, he prefers the snare to any other instrument for the reason that the growth can be removed more accurately, more thoroughly and with far less injury to the surrounding healthy parts. The latter is most important, for it is the common observation of laryngologists that recurrences are more apt to spring from those portions of the larynx that have been injured during the operative procedures than from the bases of the primary growths.

113. **Quinsy in an Adult.**—The quinsy in Prowse's case was bilateral, the abscesses extending far down the neck, practically enveloping the whole larynx laterally and anteriorly; the characteristic doughy swelling was evident before the section was begun, and there had been no rupture of the abscess into the air-passages. Death had been preceded by violent struggling for air and clutching at the throat, and the post mortem disclosed that death had been due to edema of the glottis, hastened, no doubt, by the exertion of walking, and that an intubation and laryngotomy would probably have saved the patient's life.

Memphis Medical Monthly

January

115 Our Relations Toward the Peritonitides. J. A. Crisler, Memphis.
116 *Plaster of Paris as a Primary Dressing for Fractures. J. W. Barksdale, Vaiden, Miss.
117 *Prevention of Infantile Diarrhea. A. G. Jacobs, Memphis.
118 Importance of Elimination. D. M. Hall, Memphis.
119 Was It an Abscess of the Temporal Lobe? J. R. Nelson, Whiteville, Tenn.

116 and 117. Abstracted in THE JOURNAL, Dec. 10, 1910, pp. 2091 and 2092.

Bulletin of the Medical and Chirurgical Faculty of Maryland, Baltimore

March

120 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.

120. **Management of Nervous Children.**—Barker insists emphatically that in any case nervous children should not be sent to school too early; preferably they should start a year or even several years later than the normal child. And in the schools they should never be pushed ahead too fast; competition is dangerous for the nervous child. The mistaken ambition of parents who desire their children to head the class is often responsible for serious injury to health. Sleeplessness is always a danger signal. In children it is frequently due to indigestion or to mental overstrain; occasionally to premature sexual excitations. If insomnia appears, and especially if it persists, the parents should consult a physician.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

February

121 *An Anatomic Study of the Fasciculus Occipito-Frontalis and the Tapetum. J. H. W. Rhein, Philadelphia.
122 A Case which Exhibited Thermomanesthesia: a Perversion of Thermal Sensation. L. Newmark, San Francisco.
123 A Brain of About One-Half the Average Size from a White Man of Ordinary Weight and Intelligence. B. G. Wilder, Ithaca, N. Y.
124 Dislocation of the Sixth Cervical Vertebra Forward on the Seventh. M. A. Bliss, St. Louis.

121. **The Fasciculus Occipito-Frontalis.**—In his anatomic researches on the brain Rhein found that there is in the upper levels on the right side a band of degenerated fibers more intense in the posterior wall of the lateral ventricle, which can be traced to hemorrhage in the levels below which destroys the tapetum to a certain extent. This band of degenerated fibers is continuous with a faint line of unstained or poorly stained white matter which at the uppermost levels surrounds the lateral ventricle, leaving a band of well-stained white matter between it and the ventricular wall. Forward and in the outer wall of the ventricle, this band corresponds to the position of the fasciculus occipito-frontalis as described by Marburg's atlas recently published. At a little lower level, this band cannot be traced all around the ventricle but is present still to a marked degree in the posterior wall of the lateral ventricle. These areas of degeneration, Rhein believes, may probably be interpreted as being fibers of the fasciculus occipito-frontalis which have been pushed to the side by the distention of the ventricle. At levels still lower the fasciculus occipito-frontalis is undoubtedly degenerated, and the unstained bundle of fibers can be traced in the corpus callosum as far as the median line, and when the same level on the left side is studied this can be followed into the fasciculus occipito-frontalis on this side. What appears to be degeneration can be traced into the splenium on the right side, but what the fate of these fibers on the opposite side is cannot be determined. Probably, though, they extend into the tapetum of the left side, as in one section the tapetum was degenerated and degenerated fibers could be seen in the splenium. There is little doubt in Rhein's mind that the degeneration of the fasciculus occipito-frontalis can be traced directly to the degenerated tapetum on the right side. That the degeneration in the corpus callosum is continuous with the degeneration in the fasciculus occipito-frontalis seems more than probable. This finding is uniform in a great many sections, and in comparison with sections from another brain recently studied, it appears to be undoubtedly abnormal. These findings support the views of those who claim that the tapetum is a part of a long association bundle connecting the frontal and occipital lobes. Whether the tapetum is made up exclusively of fibers from the fasciculus occipito-frontalis or in part from the corpus callosum cannot be definitely stated from the findings in this case, in spite of the fact, that degenerated fibers could be found in the splenium directly traceable to the original hemorrhagic focus, since the white matter of the occipital and temporal lobes was implicated as well. In Rhein's opinion, it seems probable that there is a long association bundle corresponding in position to the "*faisceau occipito-frontal*" described by Dejerine, of which the tapetum is a part, and which sends some fibers across the knee of the corpus callosum to the fasciculus occipito-frontalis of the opposite side.

Southern California Practitioner, Los Angeles

February

125 Diagnosis of Duodenal Ulcer. E. C. Moore, Los Angeles.
126 Surgical Treatment of Duodenal Ulcer. W. A. Edwards, Los Angeles.
127 Osteofibroma Occupying the Tonsillar Fossa. A. L. Kelsey, Los Angeles.

128 Diseases of the Gall-Bladder and Its Ducts, with Their Treatment. C. P. Thomas, Los Angeles.
129 Rabies and the Public Health. S. P. Black, Los Angeles.
130 Diagnosis of Fractures. B. J. O'Neill, San Diego.

Northwest Medicine, Seattle, Wash.

February

131 Colon Bacillus Infection of the Urinary Tract. C. B. Lyman, Denver.
132 Ocular Manifestations of Arteriosclerosis and Their Diagnostic and Prognostic Significance. C. A. Veasey, Spokane, Wash.
133 Non-Specific Prostatic Hypertrophy. L. W. Hyde, Portland, Ore.
134 What Medicine Has Done and What It Will Do in the Conservation of Human Health. G. W. States, Franklin, Idaho.
135 Direct Blood Transfusion. A. T. R. Cunningham, Spokane, Wash.
136 Present Status of Treatment of Goiter. E. M. Rininger, Seattle, Wash.
137 Common Eye Symptoms and What They Indicate. J. Jones, Tacoma, Wash.
138 A Case of Epiphysitis. R. H. Fisher, Rigbym, Idaho.
139 Moist Dressings in Surgery. J. T. Townley, Milwaukee, Ore.
140 Amebic Dysentery Contracted in the Arctics of Alaska. W. H. Axtell, Bellingham, Wash.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

February 18

1 *John Hunter and His Museum. E. Owen.
2 *Operations for Calculus in the Male Bladder. W. E. Haslam.
3 *Clinical Symptoms and Treatment of Chronic Subcutaneous Fibrosis. R. Stockman.
4 *Leukocytic Extract in Infective Processes. D. M. Alexander.
5 Electricity in Neurasthenia. J. Metcalfe.
6 Simulated Disease Occurring in Persons of Hysterical or Neurotic Temperament. J. Ewens.
7 *Eucalyptus Oil Poisoning. W. E. Foggie.
8 Curative Effect of Salvarsan in Frambesia. H. Alston.
9 Salvarsan in Three Cases of Syphilis.

1 and 2. Published also in the *Lancet*, February 18.

3. **Chronic Subcutaneous Fibrosis.**—It is held by Stockman that chronic inflammation of the subcutaneous connective tissue is a very common affection. It is secondary to various acute and chronic infections. The implication of the small peripheral nerves in the chronic inflammatory process gives rise to sensations of aching, stiffness, numbness, fatigue, etc. When persons already stout, or who afterward become so, are affected, the fat tends to form larger or smaller masses round the hypertrophied connective tissue. These masses are often very painful on pressure owing to the nerve twigs being in a condition of interstitial neuritis. The fatty masses are deposited mostly in the ordinary situations of fat accumulation. The abdomen, flanks, hips, thighs, shoulders and upper arms are in general the parts most affected, but sometimes fat is also deposited in the face, forearms, hands, legs and feet, either diffusely through the hypertrophied fibrous tissue or in lobules. When there is a large amount of subcutaneous fat the secretion of sweat is interfered with, but in most cases the amount of perspiration is normal. The morbid anatomy is very simple. When excised portions of subcutaneous tissue are examined microscopically, the fibrous tissue, the peripheral nerves and the blood-vessels are found to be in a condition of chronic interstitial inflammation; the fat cells are normal in appearance. In some cases, the fibrous tissue is much denser than in others. The condition is analogous to fibrosis of the lung, liver, kidney or ligaments, and, as, in these cases, is due to chronic local irritation from the toxins of germs or more definite chemical bodies. The most suitable name to apply to the condition, Stockman says, is probably the pathologic one of "chronic subcutaneous fibrosis." He reports five cases.

4. **Leukocytic Extract in Infective Processes.**—Alexander thinks that a new view may be taken of these extracts. They may in themselves be bactericidal and bacteriolytic to some slight degree, and they may contain natural anti-endotoxins. But they seem to act chiefly as leukocytic stimulants, inducing a huge outflow of cells, whose function is to protect the body from infection.

7. **Eucalyptus Oil Poisoning.**—A boy of 6, who had occasionally been in the habit of getting a drop or two of eucalyptus oil on sugar, was given by mistake a teaspoonful. This was about 6 o'clock one evening. About 8 he had his usual light supper, and within two hours thereafter abdominal pain and severe vomiting set in. The vomiting continued without cessation of any length and diarrhea soon became marked. By 11 o'clock the boy became drowsy, and when he was seen about this time by Foggie, he was semi-comatose. He was pale and collapsed, with a small but not very quick pulse. The muscles generally were flaccid. The pupils were medium in size and equal. The conjunctival reflex was not quite abolished. The tendon reflexes were present and were not exaggerated. There was no cough and the breathing was shallow. He could be roused by very vigorous slapping of the face, but each time he looked dazed. Every time he was wakened the nausea and vomiting set in. The vomited matter, which consisted of mucus and watery material, had a strong smell of eucalyptus oil. After two or three hours of external stimulation very much along the lines usually adopted for opium poisoning, the heavy comatose condition seemed to pass off, and the child was allowed to sleep. He slept well, and next morning, beyond being a little tired, was quite himself again. The breath had a smell of eucalyptus oil for three days. There was never any irritation of the urinary tract. In brief, the poison showed itself by gastro-intestinal irritation and cerebral paresis.

Lancet, London

February 18

10 *John Hunter and His Museum. E. Owen.
11 *Operations for Calculus in the Male Bladder. W. F. Haslam.
12 The Sphygmomanometer and the Sphygmograph. C. O. Hawthorne.
13 Eye-Strain and General Health. J. Hinshelwood.
14 Diffuse Latent Labyrinthitis: Its Dangers in the Radical Mastoid Operation. J. Harper.
15 Present Position of the Roentgen-Ray Treatment of Ringworm. S. E. Dore.

10. Also published in the *British Medical Journal*, February 18, and the *Medical Press and Circular*, February 15.

11. Also published in the *British Medical Journal*, February 18.

Medical Press and Circular, London

February 15

16 Angina in Tuberculin Treatment. R. Kramer.
17 *John Hunter and His Museum. E. Owen.
18 The Medical Examination of Employees. H. G. Langwill.
19 Suppression of Quacks and Quackery. D. Walsh.
20 New Points in Urine Analysis. J. B. Smith.

17. Also published in the *British Medical Journal*, February 18, and the *Lancet*, February 18, 1911.

Clinical Journal, London

February 15

21 Syphilis in Consulting Practice. E. M. Corner.
22 Diagnosis in Diseases of the Rectum and Anus. J. P. L. Mummery.
23 A Retrospect of Dermatology. E. G. Little.

Glasgow Medical Journal

February

24 Position of Laryngology and Rhinology in Medicine. R. Fullerton.
25 *Hematoporphyrinuria Not Due to Drugs. T. K. Monro and H. H. Borland.
26 Recent Advances in Hematology. W. K. Hunter.
27 *Cases Resembling Atrophy of the Optic Nerves which Recovered Under Treatment. L. Buchanan.

25. **Hematoporphyrinuria Not Due to Drugs.**—The patient, an unmarried woman, aged 27, housekeeper by occupation, came under the observation of Munro and Borland on account of symptoms resembling those of a mild type of diabetes. One week after a very severe chilling received while sea bathing, she observed the "bright magenta" tint of the urine. Her general condition was not satisfactory; she frequently vomited and ever since the chill she had been compelled to rise several times each night to micturate. The depth of the color varied. After a large dose of salts, the urine might be less dark, and occasionally seemed to clear for two or three days, but it invariably resumed its reddish color. She suffered a good deal from thirst and dryness of the mouth, and recently lost weight somewhat, and has been troubled with boils of the axillæ. Two of four specimens of urine examined contained sugar.

27. **Cases Resembling Atrophy of the Optic Nerves.**—During the past six or eight years, Buchanan has seen a considerable number of patients who presented many symptoms of atrophy of the optic nerves, but who have, fortunately, recovered the visual power fully both as regards central and peripheral vision. All the patients have been males between 30 and 50 years of age, and all have been steady, healthy looking men, working in responsible positions. None of the patients exhibited the signs or symptoms of toxic amblyopia; none was addicted to the overuse of either alcohol or tobacco; and none complained of, or exhibited evidences of either digestive derangement, kidney disease, or syphilis. In each case the complaint was of slowly increasing defect of vision both for near and for distant work, without any head pain or other evidence to lead to a definite cause. There can be no doubt that the diminution of vision must have been of recent origin in several. The symptoms have been diminution of central vision—both form and, less markedly, color—and peripheral contraction of the visual field, generally symmetrical. The optic nerves presented the appearance of early atrophy, pallor and sharp outline, without diminution of the caliber of the central vessels. In none of the patients was there any evidence of nervous disorder, and the subsequent history of such of the patients as Buchanan has been able to watch for one, two, three or more years has proved that the disease was not due to advancing sclerosis of brain or spinal cord. Examination of the urine showed that there was no disease of the kidneys, and careful inquiry failed to show any point from which toxic influences could start. The treatment in all cases has been purely medicinal—either tincture of nux vomica or strychnin, combined with iodid of potassium, in doses which were moderate at first, but later increased to full. In general, no benefit was experienced until a month or two had elapsed, and then it was slow but steady for about a year. Treatment was kept up until the visual acuity and the field of vision ceased to improve. In general, no improvement or alteration of the appearance of the optic nerve was seen, the size, outline and hue remaining much as at first. No diminution of caliber of the vessels was seen in any case.

British Journal of Children's Diseases, London

February

28 Four Cases of Hereditary Syphilis Treated by Salvarsan. J. H. Sequeira.
29 Pyloric Stenosis in Infancy. Indications for Operative Treatment. N. P. Marsh and K. W. Monsarrat.
30 Genesis of Hysterical States in Childhood and Their Relation to Fears and Obsessions. T. A. Williams, Washington, D. C.
31 *Subcutaneous Emphysema in a New-Born Infant. H. Wilkins.

31. **Subcutaneous Emphysema in a New-Born Infant.**—Wilkins reports the case of a primipara, aged 33, who, after a prolonged labor in which delivery was affected by axis-traction forceps, gave birth to a male child on Sept. 22, 1910. Although the heart was working well, artificial respiration had to be employed for about twenty minutes as the infant at first refused to breathe, and a large quantity of liquor amnii was expressed from the mouth and nose. The following day acute edema developed over the head, thorax and scrotum. The bowels and urine were normal. On September 26, the child, which had been crying lustily for the last twenty-four hours, suddenly became silent. The edema was then being rapidly replaced by a subcutaneous emphysema over the front and back of the head and thorax. The child could swallow well, but had complete aphonia. The breathing was slightly stridulous. There was no cough. Hot fomentations were applied to the neck, the nostril and nasopharynx were sprayed with normal saline solution, and 3 ♏ doses of wine of ipecacuanha were given every two hours. At midnight the emphysema had increased, and there was considerable dyspnea. Râles and rhonchi were heard over both lungs, the respirations were 48, and the pulse was feeble. The infant was listless and showed no desire for food. Hot fomentations were then applied to the chest and back and 20 ♏ of brandy were given every hour, together with wine of ipecacuanha and syrup of tolu and squills. The following day, September 29, the child was better generally, and took its food well. The emphysema was less on October 1, the child could cry loudly and the emphysema has almost gone. Subsequent recovery was uneventful.

Dublin Journal of Medical Sciences

February

32 Solid Solutions and Crystalline Liquids. W. G. Smith.
33 A Trip to India During the Plague Season. R. W. H. Jackson.
34 *A Case of Thrombosis of the Superior Mesenteric Vein. J. Burgess.

34. **Thrombosis of the Superior Mesenteric Vein.**—In addition to its rarity the interesting points in Burgess' case are: (1) the vagueness and mildness of the early symptoms; (2) the superimposition of a second group which completely masked the preceding; (3) the rapid course to its fatal termination in a few days from a condition of health. When first seen the man seemed in no way ill. The previous day he had suffered from diarrhea with griping pains in the abdomen. The former had ceased, but the pains had not altogether disappeared. He was a stout, florid man, aged 65. A year previously he had suffered from a similar attack, which had yielded to simple remedies. Burgess prescribed a carminative for him and saw no cause to apprehend any further trouble. Late in the evening, the pain, although not severe, was continuous, and he had passed no motion or flatus during the day; he had retched bile (sic) three times. At this time temperature was normal, pulse 112, very high tension, heart sounds were distinct; there was no murmur present. The pain was referred to the left hypochondrium. There was no tympanites, and, although suffering, he made light of his condition. The urine was high-colored, but contained neither albumin nor sugar. A symptom which puzzled Burgess was a hyperesthesia of the rectum. The next day the pain was less, otherwise the man was no better. Temperature was subnormal, and pulse was 120, wiry in character. There had been one attack of vomiting in the early morning. No motion of flatus had passed. There was absolutely no rigidity, tympanites, or pain on deep pressure of the abdomen. The symptoms present were the continuous pain (by no means severe), the quick pulse and the rectal tenderness. The vomiting occurred on such few occasions that Burgess does not feel justified in giving it prominence. Repeated turpentine enemas, opium and hot fomentations failed to give relief. Three days later, temperature was normal, pulse 120, respirations 24. The patient was semicomatose; he could be aroused to answer questions, but his replies were erratic. There was no paralysis; the pupils acted normally. There was no vomiting. The bowels had acted after an enema had been given. There was absence of rigidity of the abdominal muscles. No complaint now of pain. A blood-count was made with negative results as to leukocytosis. Like negative results attended a lumbar puncture. The urine, except showing a slight trace of bile, was normal. On the following day, a change for the better occurred, but temperature was 101 and pulse 120. Then the man became deeply comatose; his face was suffused, and the pupils were equally dilated. Breathing was stertorous, without any Cheyne-Stokes character. He was passing urine involuntarily, and his temperature was 103 F. He was restless, rolling from side to side, perspiring freely; and at times trying to get out of bed. There was no paralysis of any muscle group. The pulmonary signs were loud rhonchi over both lungs. The abdomen was very slightly, if at all, distended. The liver dulness was normal in position, there was no enlargement of the spleen; but, being a fat subject, a satisfactory examination was difficult. There was no rigidity of the muscles. The coma deepened, and the man died the following morning. At the necropsy the liver showed a marked grade of atrophic cirrhosis, the typical hob-nail, alcoholic variety, with thrombosis of the superior mesenteric vein, as high up as the junction with the splenic; two loops of small intestine were ecchymosed, partly gangrenous, were adherent to each other and to the mesentery of the sigmoid; there was no perforation of the bowel, and there were about 150 c.c. of free fluid in the peritoneum. Other findings, including the head, were negative.

Annales de l' Institut Pasteur, Paris

January, XXIV, No. 1, pp. 1-96

35 Experimental Research on Exanthematous Typhus. C. Nicolle.
36 Globulins in Human Blood. M. Aynaud.
37 Flies Reared in Aseptic Conditions. (Contribution à la connaissance du rôle des microbes dans les voies digestives.) E. Wollman.
38 Action of Intrapleural Injection of Mellin's Food on Course of Fowl Cholera in Rabbits. M. Margoulies.

Annales des Maladies des Org. Génito-urinaires, Paris

January 1, XXIX, No. 1, pp. 1-96

39 Anatomy and Pathology of Tissues Adjoining the Prostate. (Aponévroses et espaces périprostatiques. Suppurations périprostatiques.) Averseng and Dieulafé.

January 15, No. 2, pp. 97-192

40 *Operations on the Kidney and Pregnancy Later. (Operations sur le rein et la grossesse.) Hartmann and Pousson.
41 *Reflex Calculous Anuria. H. Eliot.
42 *Aspiration Treatment of Chronic Urethritis. Bronner.
43 Anuria from Concrement in Single Kidney Cured by Catheterization of Ureter. (Anurie calculeuse dans un rein unique traitée et guérie par le cathétérisme uréteral.) André.

40. **Operations on the Kidney and Pregnancy Later.**—Hartmann reports normal pregnancy in eight women in whom a kidney had been incised or removed a year or more before. He has compiled sixteen other cases of the kind, and adding these to eighty-nine already published brings to 113 the number of cases on record in which an operation on the kidney was followed by pregnancy. In none could any influence be detected on the pregnancy from the fact of the preceding nephrotomy or nephrectomy. In thirty-five cases the operation was done during pregnancy, so that the latter is no contraindication for nephrectomy. He concludes from the data presented that marriage may be authorized in such cases, even if the operation had been done for renal tuberculosis, if the urine is sterile, as determined preferably by inoculation of animals. Pousson deduces similar conclusions from sixty-six cases he has compiled except that he insists on a careful study of the general health before authorizing marriage after nephrectomy, especially the functioning of the cardiovascular apparatus and liver and the anatomic and functional condition of the remaining kidney. Even with profound changes in the remaining kidney, with purulent urine, he has known nephrectomized patients to bear healthy children; but it would be taking too many chances to authorize marriage in such a case. In twenty-nine out of thirty-two patients in whom the nephrectomy had been done for tuberculosis, the pregnancy developed apparently normally, as also in nine of ten women operated on for lithiasis, and in all of the thirteen women in whom the operation had been for a suppurative process in the kidney.

41. **Reflex Anuria.**—Eliot remarks that a pathologic kidney is especially susceptible to reflex influences, and particularly organs in which there are concrements. He analyzes nineteen cases on record and reports one from his own experience. In the latter, the obstruction of the left ureter by a concrement induced total anuria. The concrement was dislodged and expelled by the simple expedient of distending the bladder, when the anuria at once subsided. Py Suner has demonstrated an antitoxic power in the kidney enabling it normally to neutralize toxic substances circulating in the blood. He has further demonstrated that uremic blood has an inhibiting action on the secretion of urine. When suffering from the presence of concrements, the antitoxic power naturally is enfeebled, while the uremic intoxication although possibly still latent may aid in inducing anuria.

42. **Aspiration in Treatment of Chronic Urethritis.**—Bronner introduces a perforated sound connected with a water jet vacuum pump and manometer, insuring a constant aspiration inside the urethra, maintained for ten or fifteen minutes at a time. The urethra is thus cleansed from all secretions and débris while the aspiration acts as a kind of massage of the walls and induces a healing local hyperemia. The results have been satisfactory, he reports, in over a dozen old chronic cases, and he thinks that the method deserves a wider trial.

Annales de Médecine et Chirurgie Infantiles, Paris

January 1, XV, No. 1, pp. 1-36

44 *Curable Forms of Acute Tuberculosis in Children. E. C. Aviragnet and L. Tixier.
45 Recovery After Operative Treatment of Cerebral Abscess Seven Months After Trauma. H. Triboulet and M. Savariaud.
46 *Peritoneal Complications of Scarlet Fever. A. Touraine and H. Fenestre.

January 18, No. 2, pp. 37-72

47 General Principles for Examination of a Sick Child. E. Périer and E. Gaujoux. Commenced in No. 1.

44. **Curable Forms of Acute Tuberculosis in Children.**—Aviragnet and Tixier declare that the discovery of tuberculous tracheobronchial glands is important both for diagnosis, prognosis and prophylaxis. With acute symptoms, this discovery clinches the diagnosis and after their subsidence shows persistence of a dangerous focus, while it often clears up the diagnosis in latent tuberculosis. All children with swollen glands in the mediastinum should be regarded and treated as tuberculosis suspects, and should be guarded with special care against whooping-cough and measles which seem to be particularly disastrous for the general evolution of tuberculosis. These infections seem to display a special predilection for the lymphatic system and for the glands in particular. If the tuberculosis in an old tuberculous patient does not flare up anew after these infections or influenza, this may be accepted as a sign that the process has definitely healed and that the patient need no longer be classed as tuberculous.

46. **Peritoneal Complications of Scarlet Fever.**—The prognosis of peritonitis seems to be favorable when it is a scarlet fever complication. In a case described by Touraine and Fenestre, a boy of 14 developed scarlet fever during convalescence after an operation for appendicitis and scarlatinal acute peritonitis developed, but all disturbances subsided as the exanthem disappeared. They analyze a few similar cases on record in which an exanthem seemed to have developed on the peritoneum and disappeared with the superficial eruption under medical measures only. This peritoneal syndrome differs completely from the secondary peritonitis which may develop a week or weeks later, and which has quite a different prognosis.

Archives des Maladies de l'App. Digestif, Paris

January, V, No. 1, pp. 1-48

48 Peritonitis from Perforation in Tuberculosis of Large Intestine. C. Roubier and R. Crémieu.
49 Malt and Curdled Milk in Infant Feeding. (A propos de l'emploi combiné de la bouillie de malt et du lait caillé dans les troubles digestifs du premier age.) E. Terrien.
50 *Operative Treatment of Typhoid Perforation. E. Giordano.
51 *Lavage and Massage-Lavage of the Colon. J. Baumann.

50. **Operative Treatment of Typhoid Perforation.**—Giordano says that he has been able to save only about half of the patients operated on for this condition, but that they would all have inevitably succumbed if he had not operated, and he advises prompt surgical treatment and close supervision afterward in every case of peritoneal complication of typhoid, occlusion or perforation. He adds that he will not say that no one dies now from peritonitis, since Murphy introduced proctoclysis, but he will assert that not so many die from it. A typical case of typhoid perforation is reported in detail.

51. **Massage-Lavage of the Colon.**—Baumann makes a rectal injection of about a pint of fluid, which is ejected at once. This is followed by a second injection of about a quart. The patient then reclines in the dorsal decubitus and the physician, at his left, massages the fluid up into the colon and spreads it around with gentle manipulations. After massaging against the normal current, he massages then with it, the superficial effleurage toward the anus starting the bowel content in its natural course and regulating peristalsis. This procedure should not be often repeated or the bowel may become accustomed to it, and it should always be done very gently, never hurting the patient.

Archives de Médecine des Enfants, Paris

January, XIV, No. 1, pp. 1-80

52 *Differential Diagnosis of Cerebrospinal Meningitis and Epidemic Poliomyelitis from Spastic Paralysis and Encephalitis. A. Moussous.
53 *Koplik's Spots. (Les taches de Koplik.) M. de Biehler.
54 *Perivascular Localization of Intestinal Tuberculosis in Infants. M. Péhu.
55 *Serologic Differential Diagnosis of Whooping-Cough. (Diagnostic de la coqueluche fruste par la réaction de Bordet-Gengou.) A. Delcourt.

February, No. 2, pp. 81-160

56 *Eczema in Infants. C. Rocaz.
57 Lactose in Infant Feeding. M. Péhu and C. Porcher.
58 *Infantile Scorbutus. E. Lust.
59 *Scarlet Fever in a Nursing Mother. B. Delmas.
60 *The Elbow Sign of Scarlet Fever. C. Pastia.

52. **Differentiation of Epidemic Poliomyelitis and Meningitis.**—Moussous reviews the difficulties encountered in distinguishing between cerebrospinal meningitis, epidemic paralysis, infantile paralysis and acute encephalitis, stating that only the

newer differential methods allow correct differentiation, examination of the cerebrospinal fluid, etc. The lack of these in the past has led to much confusion. He insists that the sequels of cerebrospinal meningitis should be studied anew on the basis of the most modern methods, as he is convinced that many evils have been attributed to it for which it is not responsible—this mistake being the natural result of its having been confounded with other diseases.

53. **Koplik's Spots.**—Biehler has examined 947 measles patients for the Koplik spots and extols their diagnostic importance in permitting recognition of the disease before any other signs become apparent. They were found the day before the eruption in 864 cases, two days before in forty-two and up to ten days before in one case.

54. **Perivascular Localization of Intestinal Tuberculosis.**—Péhu has been studying for years the localization of tuberculous lesions in the intestine and states that they always are found close to the blood-vessels. This proves, he is convinced, that these lesions are of blood-borne origin and that the tubercle bacilli must have gained access to the body by inhalation, finding their way then from the air passages into the blood and settling at points of lessened resistance. He adds that the rarity of primary intestinal lesions is another argument in favor of this view, and also the fact that notwithstanding the general practice of pasteurization, boiling or otherwise sterilizing the milk, tuberculosis has never been so frequent nor so deadly in young children as at present. The infant consultations and sterilized milk depots are only an indirect means of prophylaxis, as Comby has recently pointed out; they are useful mainly in detecting latent or masked tuberculosis in the family and thus permitting proper measures to prevent infection of the infant by inhalation.

55. **Serologic Diagnosis of Whooping-Cough.**—Delcourt extols the advantages of the complement-fixation test in revealing latent or masked cases of whooping-cough in children and adults. Epidemics are kept up by these unsuspected cases, and their discovery is naturally of great importance for prophylaxis.

56. See abstract in THE JOURNAL, Dec. 10, 1910, p. 2099.

58. **Infantile Scorbutus.**—Lust remarks that he had encountered only seventeen cases of infantile scorbutus during eight years of practice when six came under observation in the course of three months. The cases were all in well-to-do families.

59. **Scarlet Fever in Nursing Mothers.**—Delmas' patient developed typical scarlet fever while nursing her month-old babe. The disease ran the usual course without complications and the infant continued to nurse and thrive without contracting the disease. Scarlet fever is rare in infants less than a year old, and it is possible, he thinks, that the mother's milk confers a passive immunity on the child.

60. **The Elbow Sign of Scarlet Fever.**—Pastia gives two illustrations of the stripe or stripes across the bend of the elbow to which he has called attention as an early sign of scarlet fever. The linear eruption is first pink, then dark red or dregs of wine color, or like an ecchymosis, and it leaves a pigmented stripe for a time after recovery.

Bulletin de l'Académie de Médecine, Paris

January 31, LXXV, No. 3, pp. 113-154

61 *Present Status of Cholera. (L'extension du choléra pendant l'année 1910 et le rôle de l'émigration.) A. Chantemesse.
62 Sterilization and Desiccation of Medicinal Plants. E. Bourquelot.
63 Vaccination Against Typhoid. E. Delorme and A. Netter.

61. **Cholera During 1910.**—Chantemesse regards emigration as the most important factor in the spread of cholera nowadays. Recent experiences have shown that infection was spread by individuals who had left the endemic focus twenty-five or thirty days before, and their goods had been disinfected several times, and they themselves inspected by physicians at two or three different times in the interval. Thus all the provisions of the present maritime sanitary police had been fulfilled to the letter, and yet cholera developed among them. Epidemics and poverty are driving people to emigrate, and the poverty pilgrimages are as dangerous to the health of the world as the religious pilgrimages which have so long been the concern of the public health authorities, while the present international five-day supervision and other regulations are proving inadequate, he declares, to cope with present conditions.

Lyon Chirurgical, Lyons

February, V. No. 2, pp. 109-208

64 *Adomino-Perineal Technic for Removal of Cancer of Uterus and Rectum in Women. (De l'ablation en un seul bloc de la masse recto-utéro-annexielle et du tissu cellulaire périphérique comme méthode opératoire dans le cancer du rectum chez la femme.) Albertin.
65 *Idem. (De l'amputation abdomino-périnéale du rectum, avec hystérectomie concomitante.) Goullioud.
66 *Abdominal Hysterectomy in Treatment of Cancer of Uterus, Rectum and Colon. L. Tixier.
67 *Sigmoiditis and Cancer. X. Delore and L. Lambert.

64. **Cancer of the Uterus and Rectum.**—Albertin advises removing the uterus with the cancer mass in the rectum, all in one piece. He first opens the abdomen and detaches the whole mass, preserving in the pelvis the ureters and the bladder. The abdomen is then sutured and the cancer mass and the adherent genitals are removed through the perineal incision. This technic is for the cases in which partial resection is inadequate and an iliac anus is necessary.

65. **Id.**—Goullioud has operated in five cases of rectal cancer in women by amputating the rectum with concomitant hysterectomy. Two women survived for fifteen and sixteen months and the others are in good health after two and four years to date.

66. **Id.**—Tixier advocates preliminary abdominal hysterectomy which, he thinks, reduces the gravity of the operation. He describes two cases in which this technic was applied on women aged 33 and 58 and both are in good health at present, respectively six and nearly four years later.

67. **Sigmoiditis and Cancer.**—Delore and Lambert report three cases of apparent simple sigmoiditis in which operation showed a malignant tendency or a tuberculous stricture. The patients were a woman of 48 and two men, 60 and 69 years old. None survived the peritonitis for which the operation was done. Histologic examination alone permits the differentiation in dubious cases when there are suppurative complications. In one case there had been symptoms for nearly two years, in another for one year and in the third the syndrome of peritonitis and occlusion developed abruptly.

Lyon Médical, Lyons

January 29, CXVI, No. 5, pp. 133-212

68 Biting the Nails Cured by Device Covering the Teeth. (A propos d'un cas invétéré d'onycophagie.) A. Pont.

Obstétrique, Paris

January, IV, N. S., No. 1, pp. 1-120

69 Evolution of Obstetrics in France. P. Bar.
70 *Classic and Modified Cesarean Section. B. J. Kouwer.
71 *Momburg-Belt Constriction for Obstetric Hemostasis. P. Guéniot.
72 Congenital Absence of Peroneus Muscle. L. Dieulafé.

70. **Cesarean Section.**—Kouwer states that in Holland obstetricians still prefer the classic technic and his own experience confirms its advantages. It has its drawbacks, but he is convinced that not one is suppressed by the extraperitoneal, suprasymphyseal technic while the latter exposes the woman to graver dangers than the classic method. He has done Cesarean section in sixty cases among 18,200 parturients, and he reviews this experience in detail, tabulating the various groups for comparison. The mortality for which he considers the operation responsible was only 1.72 per cent. although not all the patients were free from suspicion of infection. The chance of infection is increased by the longer duration of labor.

71. **Momburg-Belt Constriction to Arrest Obstetric Hemorrhage.**—Guéniot reviews eighteen articles that have been published on this subject and his own experience. In the majority of the cases the hemorrhage was arrested at once. The method produces disturbances in the circulation and arterial pressure but if the cardiovascular system is in good condition, he says, no harm results. It is better to refrain from this method in case of heart disease or arteriosclerosis, especially in surgical cases, but in obstetrics the method may prove a life-saving measure, especially in country practice and even

in well-equipped institutions. Some recommend that the Momburg tubing should be carried in every obstetrician's bag. The rubber tubing preferred is about the size of a finger, but ordinary gas tubing or the tube from a fountain syringe may be used. The technic was illustrated in THE JOURNAL, Oct. 30, 1909, p. 1519.

Presse Médicale, Paris

February 4, XIX, No. 10, pp. 89-96

73 Classification of Ptosis of Liver. D. Chilaiditi.
74 Modified Cystoscopy. (Cystoscope pour les sondes urétérales à large diamètre.) E. Garceau.

February 8, No. 11, pp. 97-104

75 Arguments in Favor of Vaccination Against Typhoid. L. Landouzy.

Revue de Médecine, Paris

January, XXXI, No. 1, pp. 1-80

76 *Protracted Fever in Certain Infectious Diseases. H. Bernheim.
77 Metabolism of Ammonia Compounds. I. (Contribution à l'étude du metabolisme des composés ammoniacaux. Toxicité et élimination au cours du jeûne.) H. Labbé.
78 *Hemolytic Jaundice with Occasional Hemoglobinuria. A. A. H. van den Bergh.

76. **Protracted Fever in Infectious Diseases.**—Bernheim called attention in 1876 to cases in which the fever of an infectious disease persisted after subsidence of all other symptoms and, although apparently doing no harm, yet the temperature kept above normal for weeks, months or even years. The fever was generally noted in the evening, the temperature being normal the rest of the day. He has encountered the phenomenon with typhoid and paratyphoid, influenza, acute articular rheumatism, erysipelas, catarrhal pneumonia and pleurisy. The disease does not run itself out like the eruptive fevers and fibrinous pneumonia, but the fever-inducing microbes or their toxins evidently linger in the organism. The trouble is rather a tendency to relapses and recurrences than a steady febrile condition, as he shows by thirteen case-histories reported in detail. In one of bronchopneumonia all other symptoms had subsided by the forty-fifth day, but fever persisted to the eightieth day. In a case of right pleurisy all symptoms had disappeared by the twenty-seventh day, but the fever was evident until the one hundred and third day. The influence of influenza was evident in a few of the cases.

78. **Hemolytic Jaundice with Hemoglobinuric Crises.**—The patient in the case reported was a man of 47 who since 1899 has had recurring jaundice with occasional attacks of hemoglobinuria. Each attack is accompanied by more or less anemia, oppression in the cardiac region and pain in the hypogastrium, some of these symptoms persisting between the attacks to some extent. The blood findings are those of secondary anemia. The trouble seems to be an exceptional fragility of the man's blood-corpuscles in the presence of carbon dioxid at body temperature. This could be shown *in vitro*.

Archiv für Gynäkologie, Berlin

XCIII, No. 1, pp. 1-188. Last indexed January 28, p. 309

79 Causes and Importance of Phagocytosis in the Lochia. T. Heynemann.
80 Development of Placenta Prævia. R. Jolly.
81 Hemolysis in Relation to Jaundice in New-Born Infants. (Hämolyse in Beziehung zum Icterus neonatorum.) B. Slingenberg.
82 Interstitial Pregnancy. (Die interstitielle Tubargravidität.) E. Glaesmer.
83 Atresia and Torsion of One Fallopian Tube. E. von Graff.
84 *Treatment of Eclampsia. H. Heinze.

84. **Treatment of Eclampsia.**—Heinze's method is: (1) Rapid artificial delivery without the cooperation of uterine contractions; vaginal hysterectomy or abdominal Cesarean section if cervix and os are not dilated; forceps and version if sufficiently dilated; (2) curetting the uterus if eclampsia persists after delivery, even if the placenta has apparently been removed; (3) decapsulation of the kidneys if the eclampsia still persists and there are signs of serious injury of the kidneys; (4) general measures, including venesection, proctoclysis, the Jaquet pack, diuretics, heart stimulants, artificial respiration and inhalation of oxygen. He gives the case-histories of three very severe cases in which treatment on these principles proved successful. In a fourth case this entire battery had not been brought to bear and the patient succumbed, which he thinks might have been prevented with a little more energetic treatment. Hall, Tatzke and Fellner have reported cases in which puerperal psychosis or eclampsia subsided after curetting.

Beiträge zur Klinik der Tuberkulose, Würzburg

XVIII, No. 3, pp. 393-421. Last indexed February 18, p. 545

85 Remarkable Case of Bronchiectasis. A. Bauer.
86 *Pseudo-Tuberculin Reaction. (Ueber Injectio vacua bei Tuberkulösen.) K. Weihrauch.
87 *Serodiagnosis of Pulmonary Tuberculosis. O. Roepke.
88 Estimation of Earning Capacity of the Tuberculous. (Beurteilung der Erwerbsfähigkeit bei der chronischen Lungentuberkulose.) T. C. Curschmann.
89 Tubercle Bacillus Emulsion in Treatment of Tuberculosis. (Spezifische Therapie der Tuberkulose.) Krause-Hannover.
90 Unfavorable Experience with Endotin. (Ueber Tuberculinum purum—Endotin.) F. Walterhöfer.
91 *Behavior of the Heart in Pulmonary Tuberculosis. (Verhalten des Herzens bei Lungentuberkulose.) J. Fürbringer.
92 Manometer Findings in Induced Pneumothorax. (Manometrische Beobachtungen bei der Ausübung der Therapie des künstlichen Pneumothorax.) L. v. Muralt.
93 Spengler's I. K. in 400 Cases of Tuberculosis. F. Lukin.
94 *Lung Findings in Scoliosis. (Der Lungenbefund bei Skoliose.) W. Neumann.
95 *Tables for Ready Reference with the "Tuberculin Titer" Test. (Tabelle für die Bestimmung des Tuberkulintiters nach Ellermann-Erlandsen.) A. Erlandsen.

86. **Sham Tuberculin Reaction in the Tuberculous.**—Weihrauch has tested the reaction in 212 tuberculous patients to a sham test injection of tuberculin. The instability of the heat center in the tuberculous was evidenced by the rise in temperature in 56, that is, in 26.4 per cent. after the slight trauma of the injection of mere water or the introduction of the needle without any injection; the reaction was more pronounced when aided by verbal suggestion by the physician. The rise in temperature was accompanied by general disturbances only in two cases, that is, in 0.9 per cent. The pseudoreaction may prove misleading in the clinic; the real criterion is the reaction in the tuberculous focus. There is no focal reaction after the sham injection and the temperature also drops more rapidly than after the real tuberculin injection. There did not seem to be any difference between the length of the interval before the temperature rose after the real and the sham injection except that a positive reaction was obtained between the twelfth and the twenty-fourth hours in eight patients with tuberculin and only in two so tardily with the sham tuberculin.

87. **The Serodiagnosis of Tuberculosis Not Practicable.**—This is the conclusion reached by Roepke after extensive experimental research on the possibility of transmitting to guinea-pigs the anaphylaxis possessed by tuberculous human beings.

91. **The Cardiovascular System in Pulmonary Tuberculosis.**—Fürbringer discusses the toxic influence on the heart and vessels of the tuberculous infection and the organic changes liable to result therefrom. Auscultation rarely shows normal conditions in the heart action. Accentuation of the second pulmonary sound is extremely frequent, he says, even with slight infiltration of the left, upper lobe, of which it may be the first sign in adults. The toxic influence of the tuberculous infection is felt mainly by the myocardium, and this permanent overirritability of the heart almost inevitably entails in time organic injury of the heart muscle and arteriosclerosis.

94. **Deceptive Lung Findings in Scoliosis.**—Neumann analyzes the percussion and auscultation findings liable to be encountered with curvature of the spine and mistaken for the results of tuberculous processes in the lungs. He cites some typical examples of various types of this scoliotic pseudotuberculosis and complications. In one case there was deformity of the chest plus acute bronchopneumonia. In another case the scoliosis was accompanied by a recent active tuberculous process in the lung, and in another with relics of an old healed process. Only a thorough knowledge of the findings to be expected in the chest with curvature of the spine will permit correct differentiation in such puzzling cases as these. He has found them comparatively frequent and, oftener than not, tuberculosis has been incorrectly diagnosed. In a typical case a high school graduate was rejected by a medical examiner on account of pronounced dulness over the back of the right apex, assumed to be a sign of a tuberculous process. The young man held himself straight, but closer examination

of the back showed that the left iliocostal muscle was abnormally prominent. A tendency to scoliosis was thus detected and the findings over the lungs proved to be those characteristic only of curvature of the spine. Such cases are frequently encountered, the patients passing through the hands of many physicians, none of them discovering the scoliosis responsible for the pseudotuberculosis findings. Many of the patients were regarded as holding themselves unusually straight; in some cases lordosis in the middle thoracic segment of the spine contributed to the stiffly erect posture. The scoliosis in these puzzling cases is too slight to attract attention unless especially sought for. One shoulder a little higher than the other, lordosis in the thoracic vertebræ or undue prominence of the sacrolumbal muscle on one side may be the only sign of the tendency to scoliosis. Neumann's experience has further shown, he asserts, that persons with kyphoscoliosis and mitral defects are exceptionally resistant to pulmonary tuberculosis. Among 1,767 cadavers only 59.5 per cent. were found free from tuberculosis, while of 120 cadavers with mitral defects, 77.6 per cent. were free from tuberculosis and 73.4 per cent. of 49 kyphoscoliotic cadavers. Among the typical findings with scoliosis Neumann mentions contralateral apical dulness, that is, on one side in front and on the other side in the back; dulness over the apex at the rear with dulness over the base on the other side. If dulness is noted over a lung corresponding to the extent of the scoliosis, this cannot be accepted as an indication of tuberculosis. Another sign of the pseudotuberculosis is the lesser movability of the base of the lung on the side opposite the convexity of the curvature of the upper thoracic vertebræ. This sign was constant in his cases. With light percussion the lung was found two or three finger-breadths above that of the other side and the margin of the lung did not share in the excursions of the other side.

95. **The "Tuberculin Titer" Quantitative Test.**—THE JOURNAL, May 15, 1909, page 1634, described the method devised by Ellermann and Erlandsen to test the hypersusceptibility of the organism to tuberculin by a graduated cutaneous tuberculin test with varying concentrations of the tuberculin. Erlandsen states that further experience has confirmed the simplicity and reliability of the method. He has worked out a set of tables for exact mathematical recording of the individual findings. All that is necessary to know is the average diameter of the four papules that follow inoculation with the four concentrations (0.5, 2, 8 and 32 per cent.), and the average of the differences between the diameters of the papules. The table shows at a glance the corresponding titer within a range of titers from 25 to 5,846, thus enabling instructive comparison of cases, and estimation of the individual conditions.

Berliner klinische Wochenschrift

February 6, XLVIII, No. 6, pp. 241-280

96 Tobacco Psychosis in Boy of Thirteen. P. K. Pel.
97 *The Wassermann and Cutaneous Tuberculin Reaction in Scrofulous Children. R. Hertz and O. Thomsen.
98 Chronic Tetany with Epileptiform Attacks and Psychosis. G. Salz.
99 *Specific Differential Reactions with Vaccines According to Wright. (Vaccinediagnostik.) H. Reiter.
100 *Rachitis as Causal Factor in Curvature of the Spine. (Rachitis als ursächliches Moment für Rückgratsverkrümmungen.) M. Böhm.
101 *Couching for Cataract. (Reklination des grauen Stars.) G. Levinsohn.
102 Recurring Cutaneous Local Reaction During Pasteur Treatment of Rabies. (Eigentümliche Komplikation während der Pasteur'schen Schutzimpfung gegen Lyssa.) C. Frugoni and C. Gargiano.
103 Changes in Views Concerning Typhoid Epidemiology. G. Sticker.

97. Practically the same article was abstracted in THE JOURNAL, Jan. 28, 1911, page 314.

Vaccine Diagnosis.—Reiter reiterates that every infected organism for a certain period is in a condition of specific allergy, during which it reacts in a specific manner to renewed introduction of the substance inducing the allergy. If this premise is correct, administration of the allergy-inducing substance is a valuable means of differentiation of the infection in question by the specific reaction that follows. Vaccines prepared according to Wright's method answer the desired purpose, and he has found it possible to confirm by this means the diagnosis of streptococcus, gonococcus, pneumococcus and other infections—the specific vaccine induced in every instance a strictly specific biologic reaction. Reiter would like to see this allergic reaction used in other diseases besides tuberculosis and anthrax to which now it is generally confined. It may render good service in other occult infections; the polyvalent vaccines are proving most useful. The serologic determination of the negative phase will further perfect our knowledge of differential biologic reactions in general and the vaccine diagnosis is liable to prove exceptionally valuable in differentiating extra-uterine pregnancy, appendicitis, oophoritis, cystitis, etc. The reaction should not be regarded as more than an adjuvant diagnostic measure; only a focal reaction, he adds, is positive proof of a specific affection. The vaccines are best tested on absolutely healthy individuals; no harm can result, he declares, with the minute dosage required.

100. **Rachitis as a Causal Factor in Curvature of the Spine.** Böhm gives illustrations of a number of cases of curvature of the spine to show that it can be traced in an unsuspectedly large proportion of cases to rachitis in early infancy. Treatment should begin earlier than has been the rule hitherto; physicians should search for the tendency to curvature of the spine in young children with signs of rachitis, and institute treatment in time to prevent irreparable injury. He decries the assumption that faulty postures and school work can induce curvature of a healthy spine. The Roentgen rays, etc., always reveal some anatomic basis for the deformity.

101. **Couching of the Lens for Cataract.**—Levinsohn thinks that under certain urgent indications this operation deserves reinstatement. Such indications are hemophilia and restless mania preventing a cutting operation on the eye. He has recently done reclination in two elderly insane women, and the results, he reports, were highly gratifying; there has been no tendency to glaucoma or other complication during the four and six months to date.

Deutsches Archiv für klinische Medizin, Leipsic

CI, Nos. 5-6, pp. 421-630. Last indexed February 11, p. 463

104 The Pneumogastric Nerve. (Beiträge zur Anatomie, Histologie und Physiologie des Nervus vagus, zugleich ein Beitrag zur Neurologie des Herzens, der Bronchien und des Magens.) L. R. Müller.
105 The Specificity of the Wassermann Reaction and Study of Incomplete Reactions Sometimes Observed in Wasting Diseases. E. Scheidemandel.
106 Radical Treatment of Appendicitis: 611 Cases. A. Ebner.
107 Slight Clinical Value of Antitryptic Action of Pathologic Urine. J. C. Schippers.
108 Two Cases of Aortic Aneurysm Perforating Into the Pulmonary Artery. P. Geipel.
109 Increased Vibration of Chest Wall Always Sign of Infiltration of Lung. (Ueber den Pektoralfremitus.) H. Hochhaus.
110 The Sahli-Seiler Butyrometric Test Breakfast. (Zur Kritik des Sahli-Seiler'schen Probefrühstucks.) O. Prym.
111 Vascular Reflex Disturbances in Syringomyelia. H. Stursberg.

Deutsche medizinische Wochenschrift, Berlin

February 9, XXXVII, No. 6, pp. 241-288

112 *Secretory Disturbances in the Stomach. (Diagnose und Behandlung der Sekretionsstörungen des Magens.) D. v. Tabora.
113 *Blotting-Paper Test for Free Hydrochloric Acid in Stomach Content. (Eine neue Methode zur Bestimmung der freien Salzsäure im Magensaft.) I. Holmgren.
114 Functioning of Lung After Release from Induced Pneumothorax. C. Forlanini.
115 Salvarsan in Syphilis. W. Heuck and J. Jaffé.
116 Case of Verrucous Tuberculosis of the Skin and Lymphangitis Due to Bovine Tubercle Bacilli. K. Heuser.
117 Opsonin Treatment of Skin Diseases. M. Bab.
118 Treatment of Detachment of the Retina. (Behandlung der Netzhautablösung.) R. Deutschmann.
119 Inflatable Pessary for Hemorrhoids, Etc. (Pneumopessar für Haemorrhoiden und Analprolapse.) E. Schlesinger.

112. **Abnormal Gastric Secretion.**—Tabora reviews recent progress in treatment of secretory stomach disturbances, especially hyperchlorhydria. It used to be supposed that sodium bicarbonate taken after a meal was the most effectual means of combating hyperacidity, but the laboratory has shown that secretion in the stomach is checked by taking the alkali fasting—checked both directly in the stomach and by reflex action from the passage of the alkali into the intestine. The more rapidly the alkali passes into the intestine, the sooner this inhibition occurs, and consequently the best results are obtained when the alkali is ingested fasting. Treatment of hyperacidity, therefore, is by having the patient take half

an hour before each meal a little alkali, and Tabora prefers for this a mixture of 20 parts magnesium usta, 10 parts sodium citrate and 5 parts sodium or magnesium sulphate. A four or six weeks' course of this generally suffices. He has abandoned the use of the bicarbonate as it is liable to induce discomfort and the carbonic acid evolved is a stimulant to further secretion. Sodium and magnesium sulphate have also an inhibiting action on gastric secretion in addition to their valuable laxative powers. The diet should be regulated to postpone as late as possible the production of free acid in the stomach, and this is best realized with an albumin-fat diet; he restricts the diet to albumin and fat more exclusively the severer the secretory disturbances but otherwise prefers a mixed diet. The articles of food should be in such a form as to expose the largest surface to the action of the gastric juice. It is better consequently to have the food in a soft mashed or finely chopped form than to have the patient chew it long, as mastication in itself induces by reflex action secretion in the stomach. Meat is less stimulating in this respect when boiled. The meals should be reduced in number but copious. If the alkali treatment does not cure, a course of oil, 3 tablespoonfuls daily between meals, for several weeks, and eventually a little belladonna may be advisable. With chronic hypersecretion atropin is indicated in case the above measures fail, and the patients should be taught how to use the stomach tube themselves to siphon out the stomach content in case of much pain, especially before retiring at night. He adds that in this case as in all other affections the patient must not be forgotten in treating the stomach trouble, the blood, the mental poise, etc., must be considered. When the stomach trouble is an insufficiency of the secreting powers, rinsing out the fasting stomach with a dilute saline solution is useful, as also administration of hydrochloric acid. The latter not only aids in digestion but starts pancreas functioning, checks putrefaction in the intestines and by reflex action opens the pylorus.

113. **Blotting-Paper Test for Free Acid in Stomach Content.**—Holmgren has discovered that when a dilute solution of hydrochloric acid is dropped on blotting paper, as the fluid spreads by capillary attraction the water spreads farther and fastest while the acid only spreads to a limited distance around the center of the spot where it was deposited. The proportion between the percentage of acid and the proportional extent to which the acid spreads is a constant figure. From these premises he has worked out a simple quantitative test for determination of the free hydrochloric acid in the gastric juice. He applies with a pipette to a square of blotting paper a series of dots, 1 mm. apart, of a 1 per cent. aqueous solution of Congo red. He then deposits a small quantity of stomach content or solution of hydrochloric acid on one of the dots. The fluid spreads but the color reaction is obtained only with a certain number of the dots, those beyond not giving the reaction. By comparing the number of reacting dots with those beyond this zone but reached by the spreading moisture, we have the percentage of free acid in the fluid examined.

Deutsche Zeitschrift für Chirurgie, Leipsic

January, CVIII, Nos. 3-4, pp. 221-428

120 Advantages of Bismuth Paste in Fistulas. M. Brandes.
121 *Surgery of the Lungs. S. Solieri.
122 *Modified Technic for Gastrostomy. (Eine neues Gastrostomie-Verfahren.) P. Lofaro.
123 Diagnosis and Treatment of Acute Osteomyelitis and Purulent Spinal Meningitis. R. Goebell.
124 Ossifying Myositis or Callus Around the Bone? P. Sudeck.
125 Nail Extension in Treatment of Fracture. K. Heinemann.
126 Plastic Method for Mobilization of Stiff Elbow. (Interposition eines frei transplantierten Fascienstreifens bei knöcherner Ankylose des Ellenbogengelenks.) V. Thom.

121. **Surgery of the Lungs.**—Solieri, of Siena, Italy, reports six cases in which an operation was done on the lung for abscess or gangrene, with recovery in all but one case in which the lesions were multiple and the patient a feeble young child. One patient was a man of 54 with a large post-pneumonia gangrenous process in the right lower lobe. The cavity was the size of a man's fist and the man collapsed as it was evacuated under local anesthesia and hovered between life and death for several days; the lips of the wound became gangrenous. Cautious cleansing with potassium permanganate and hydrogen dioxid gradually conquered this tendency and the patient left the hospital in good condition by the end of the month. The lung was entered from the rear in all the cases. Echinococcus cysts in the lungs promise better results after operative treatment, Solieri says, than any other surgical pulmonary affections.

122. **Improved Technic for Gastrostomy.**—Lofaro gives an illustrated description of his technic for making a permanent and continent opening into the stomach. [The main points were given in THE JOURNAL, Jan. 7, 1911, page 78.] He compares it with the various technics in vogue and extols its superior advantages. He has done the operation on eight large dogs and watched its ultimate outcome; complete and permanent continence was obtained in every case, the gastrostomy showing no change in any case during the months since, and his experiments on cadavers indicate that the same results can be counted on in human beings.

Jahrbuch für Kinderheilkunde, Berlin

February, LXXIII, No. 2, pp. 131-258

127 Hemoglobinuria After Chilling. (Paroxysmale Kältehämoglobinurie.) M. Brückner.
128 Bacteriology of Respiratory Diseases in Children. I. H. Vogt.
129 *Casein Curds in Infants' Stools: Biologic Proofs of Their Casein Origin. (Kasein-Gerinnsel in Kinderstuhl. Biologischer Beweis ihres Ursprungs aus Kasein.) F. B. Talbot.
130 *Early Mortality of Several Children in a Family. (Frühzeitiges Sterben zahlreicher Kinder in einer Familie.) K. Stolte.
131 Water Content of Infants' Blood in Health and Disease. (Wassergehalt des Blutes.) F. Lust.

129. Practically the same article appeared in *Archives of Pediatrics*, June, 1910.

130. **Familial Mortality in Children.**—Stolte gives the details in respect to 100 families in which from two to ten children died before reaching the age of six, or still larger numbers died under the age of fourteen. In one family five children died about the end of the third month with diarrhea, although breast-fed and well tended. They were all "nervous" children and a neuropathic tendency seemed to prevail in the children of most of these families. The children in each family succumbed with apparently the same syndrome. Knowledge of such occurrences suggests anti-syphilitic treatment of the parents in case of another pregnancy, if syphilis is suspected. When there is an unusual susceptibility to infections, general measures are useful in prophylaxis, but the physician is practically powerless in the cases where degeneracy is responsible for the lack of vitality.

Medizinische Klinik, Berlin

February 5, VII, No. 6, pp. 207-248

132 *Cystic Serous Meningitis of Posterior Cranial Fossa. (Meningitis cystica serosa der hinteren Schädelgrube.) R. Bing.
133 *Connection Between Civilization and Mental Disease. (Zusammenhang zwischen Zivilisation und Geisteskrankheiten.) A. Tamburini.
134 Zinc Ions in Local Treatment of Septic Corneal Ulcer. (Heilung des septischen Hornhautgeschwurs durch Zinkiontophorese.) Lubowski and P. W. Sachs-Milke.
135 Antiperistalsis of Large Intestine in Man. W. Bloch.
136 Salvarsan in Office Practice. R. Lenzmann.
137 Treatment of Developmental Defects of the Brain with Pituitary Extract. (Erfolgreiche Anwendung von Hypophysispräparaten.) Bahrmann.
138 Physical Measures in Treatment of Asthma. Pescatore.
139 *Injection of Gelatin for Functional Test of Bone Marrow. (Funktionsprüfung des Knochenmarks am Menschen mittels Gelatininjektionen.) A. v. Decastello and A. Krjukoff.

132. **Serous Meningitis of Posterior Cranial Fossa.**—The patient in Bing's case was a man of 27, previously healthy, who developed symptoms suggesting compression of the cerebellum and adjacent organs, commencing with weakness of the legs, and gradually increasing during the year until the patient was in constant dread of falling. He also felt dizzy in walking, sitting and reclining except when he reclined on the left side. Occasionally he vomited without preceding nausea. There was no actual headache but a sensation of oppression at the base of the skull. Numbness in the left hand was another symptom, and during the last few weeks there had been some impairment of vision and hearing. The appetite was good, sleep restless, bowel functioning defective, and there was left facial paralysis, but the eye reflexes were unmodified. On the diagnosis of tumor in the left cranial fossa—possibly serous meningitis—the focus was exposed and a cystic ac-

cumulation of fluid found in the posterior fossa, adhesions walling it in perfectly. As the adhesions were divided the fluid escaped and all trouble was at an end, the patient promptly recovering and the symptoms gradually subsiding. Six months later some of the symptoms returned to a slight extent but under potassium iodid they partially subsided anew and the cure was finally completed by substituting for the iodid, tincture of nux vomica, and pushing the dose rapidly to 40 drops a day. Improvement kept pace with it, the patient soon being freed from all symptoms. There was no history of trauma or syphilis in this case but the patient had had at one time a bilateral middle ear affection which might have been responsible for the development of the adhesions. The experience with this case testifies, Bing thinks, in favor of operative treatment at once without wasting time on lumbar puncture which could not possibly have done any good as there was no apparent communication between the cyst and the spinal fluid, while there is always a possibility of serious damage from lumbar puncture with any tumor in the brain. The case further teaches, he declares, the inadvisability of wasting precious time with antisyphilitic measures; an old syphilitic may have a non-specific tumor in his brain. In a case recently reported by Oppenheim he had diagnosed a tumor in the cerebellopontine angle and advised immediate operation, but as the Wassermann reaction was positive, although there was no history or sign of syphilis, a course of mercurial treatment was instituted and transient benefit was realized; soon, however, recurring severe symptoms brought the patient to the operating table and a fibroma as large as a hen's egg was easily shelled out of the angle. The patient died five days later of cardiac paralysis.

133. **Relation Between Civilization and Mental Disease.**—Tamburini cites historical data to show that mental disease was common among ancient and historical peoples and is common among the less civilized at the present day. The progress of civilization has eradicated the epidemic forms of mental disease, while the greater attention and care now paid to the insane has apparently increased the proportion of the mentally unsound, but he is convinced that this increase is only apparent. Civilization is now confronted with the task of eradicating the causes which breed mental disease, and he pleads for concerted international action, collecting and comparing data and teaching physical and moral hygiene—science, practical pedagogics and legislation all working toward this end.

139. **Gelatin Test of Bone-Marrow Functioning.**—Subcutaneous injection of a little gelatin is followed by marked hyperleukocytosis if the bone marrow is capable of responding to stimuli, as Decastello and Krjukoff found in tests of forty-two patients. The findings are important both for diagnosis and prognosis in certain circumstances.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

February, XXXIII, No. 2, pp. 125-264

140 The Ovaries with Constitutional Anomalies. (Die weibliche Keimdrüse bei Anomalie der Konstitution.) J. Bartel and E. Herrmann.
141 Absence of One Ovary with Rudimentary Tube and Normally Developed Uterus. E. Sachs.
142 *Puerperal Inversion of the Uterus. F. Pachner.
143 Vaginal Cesarean Section in Abortion and Premature Delivery. (Sectio caesarea vaginalis als Methode der künstlichen Fehl- und Frühgeburt.) G. Klein.
144 Bacteriologic Study of the Blood in Puerperal Fever. M. Semon.
145 Case of Fatal Staphylococcus Aureus Hæmolyticus Sepsis After Abortion. A. J. M. Lamers.
146 *Variations in Weight of New-Born Infants. (Ueber Gewichtsschwankungen Neugeborener mit besonderer Berücksichtigung der Resultate bei vierstündlichem Anlegen.) M. Heidemann.
147 Intra-Uterine Fracture of the Humerus. (Intrauterine in Pseudarthrose geheilte Humerusfraktur und Anencephalus.) T. Rosenthal.
148 Pyelitis in Pregnancy. S. Mirabeau.
149 Tuberculosis of the Female Urinary Apparatus. S. Mirabeau.
150 Chronic Intermittent Hydronephrosis in Women. S. Mirabeau.

142. **Puerperal Inversion of the Uterus.**—Pachner ascribes the inversion to relaxation of the muscular wall of the uterus, or of its lower segment. This view is sustained by the recurrence of the inversion at different deliveries, the peculiar thinness of the uterine wall in such cases, and the fact among others that inversion occurs more frequently at the first delivery and with younger women.

146. **Variations in Weight of New-Born Infants.**—In this communication from the Heidelberg Maternity, Heidemann states that he has made a practice during the last four years of having the infants nursed at intervals of four hours, that is, allowing only five feedings in twenty-four hours. This gives both mother and infant a chance to rest better, and systematic weighing of the children showed that they thrived unusually well under this arrangement. The nipples were less liable to crack with these long intervals, and working women found them much more convenient as the infant grew older.

Monatsschrift für Kinderheilkunde, Leipsic

IX, No. 10, pp. 549-592

151 *Influenzal Meningitis. G. Simon.
152 *Cardiospasm in Infants. C. Beck.
153 *Scarlatinal Thyroiditis. J. Bauer.

151. **Influenzal Meningitis.**—Simon reports two cases in previously healthy infants about eight months old. After a week of cough and fever, suppurative meningitis developed and influenza bacilli were found in the spinal fluid and pus in the cerebral ventricles, joints or middle ear. The primary focus was in the lung in one case and in a joint in another. He tabulates the details of forty-one somewhat similar cases he has found in the literature; thirty-three of the patients were under the age of 2 and 90 per cent. under 9. Only 10 per cent. recovered, including one woman of 33, two children about 8, and two infants, 9 and 14 months old respectively.

152. **Cardiospasm in Infants.**—Beck reports two cases in young infants causing uncontrollable vomiting; at first milk poured into the stomach through a tube was not vomited in one case. Later the cardia became impassible in both and the children were fed by the rectum for a time. Then under a little tincture of opium, feeding by the mouth was gradually resumed and there was no further trouble, the infants rapidly recuperating.

153. **Scarlatinal Thyroiditis.**—In Bauer's three cases there had been no tendency to goiter but the thyroid increased in size during the course of scarlet fever. It returned completely to normal size in one boy of 13 by the thirtieth day, but in another boy, traces of the swelling were still perceptible on the sixty-sixth day, as also in the third patient, a young woman, on the forty-third day. The thyroiditis in this case was evidently one of the primary manifestations. The scarlet fever had been of a mild type, with no other complications, in all.

Münchener medizinische Wochenschrift

February 7, LVIII, No. 6, pp. 289-336

154 Oxidation Processes in the Cells. O. Warburg.
155 Plastic Operation for Femoral Hernia. (Radikale Operationen des Schenkelbruches durch Faszienplastik.) M. Wilms.
156 *Artificially Induced Petechiæ as Sign of Scarlet Fever. (Hautblutungen durch Stauung hervorgerufen als diagnostisches Hilfsmittel beim Scharlach.) C. Leede.
157 Acute Pustulous Exanthem in Brazil: White-Pox. (Weisse Pocken.) M. Rudolph.
158 Cutaneous Aphthæ. (Dermatitis fibrinosa faciei.) E. Moro.
159 *Gastric Fever. A. Scheglmann.
160 Salvarsan in Syphilis. (Ueber 60 mit Salvarsan ambulatorisch behandelte Fälle.) E. Freund. (Klinische Prüfung des Dioxydiamidoarsenobenzol.) G. Treupel and A. Levi. Commenced in No. 5.
161 Glycerin as Part Vehicle for Salvarsan. (Zur Technik der Zubereitung der Salvarsanlösung zu Zwecken der intramuskulären Injektion.) B. Kozlowski.
162 Testing Vision in Examining Chauffeurs. (Das Sehorgan des Automobilführers.) G. Freytag.

156. **The Tourniquet Sign of Scarlet Fever.**—Leede has found that a slightly constricting band applied to the upper arm causes petechial bleedings below in case of the existence of scarlet fever. He has been applying this tourniquet sign in cases of suspected scarlet fever and obtained a positive response in all but 1 of the 200 patients tested; the single exception being a very fat girl, while a positive response was obtained only in one of the control cases—a syphilitic woman who proved to be free from scarlet fever. Nothing like the specific petechial spots in the bend of the elbow could be obtained in any other disease except that there was a slight tendency in this line in measles. In some cases the sign was positive the first day and the findings grew gradually less pronounced as the disease subsided, but it was still evident by the end of six weeks in some, and with hemorrhagic nephritis the sign was still positive by the fifteenth week.

The most convenient method of applying the constriction was with the Riva-Rocci cuff; the petechiæ developed in from five to twenty minutes. [Compare with Abstract 47 in THE JOURNAL, Feb. 18, 1911, page 545.]

159. **Gastric Fever.**—Scheglmann during the last two summers in his rural practice has encountered a number of cases of what can only be styled gastric fever. The last epidemic embraced 140 cases; after three days of fever at 39.5 or 40 C. (about 103 and 104 F.) the fever gradually declined and by the end of two weeks the patients had entirely recovered. The onset was stormy, with a chill and intense persisting frontal headache, with vomiting during the first two or three days; the patients also complained of oppression in the chest, pain in the stomach and all the limbs and extreme prostration. When they were able to get up they staggered, and the digestive organs were extremely sensitive so that the slightest indiscretion in diet during the second week brought on the whole syndrome again. No complications were observed, the kidneys appearing to be intact. He regards influenza as excluded on account of the total absence of catarrhal symptoms, the upper air passages persisting normal throughout, and there being no sacral pain. But the main argument against the diagnosis of influenza is the fact that other members of the family were not affected. An epidemic of influenza in the summer is also a rarity. No one seemed to be affected except harvest workers. The agglutination test for typhoid and paratyphoid was always negative.

Wiener klinische Wochenschrift, Vienna

February 9, XXIV, No. 6, pp. 191-226

163 *Non-Destructive Action of Placenta Serum and Serum of Pregnant Women on Human Cancer Cells. R. Kraus and E. v. Graff.
164 Reciprocal Relations Between Inflammatory Processes in Appendix and Tubes. (Zur Frage der Wechselbeziehungen zwischen entzündlichen Erkrankungen des Processus vermiformis der Tuba Fallopii mit besonderer Berücksichtigung der Perforation des Wurmfortsatzes in die Tube.) I. I. Grekow.
165 Corporal Proportions of Cretins. A. Flinker.
166 Streptothrix Disease in Man. G. Gjorjevic.
167 Quarantine Studies. E. Wiener.

163. **Non-Destructive Action of Placenta Serum on Human Cancer Cells.**—The results of the research reported by Kraus and von Graff supplement the recent findings by others that under certain circumstances the human blood-serum loses the property of destroying carcinoma cells. Normal serum dissolves human and mouse cancer cells, while the serum of persons with cancer has lost this property, and Kraus and von Graff announce that the serum from the umbilical cord behaves in this respect like the serum from cancer patients. The blood-serum of pregnant women nearing term has the same property in a lesser degree. These facts seem to indicate that it must be the placenta which is responsible for the abnormal behavior of the pregnancy serum in respect to cancer cells and that the chemistry of metabolism is evidently involved in the phenomenon.

Zeitschrift für Urologie, Berlin

January, V, No. 1, pp. 1-80

168 *Atony of Bladder Without Obstruction or Signs of Organic Nervous Disturbances. J. W. Thomson Walker.
169 Simple Pyonephrosis. (Zur Kasuistik der geschlossenen Pyonephrosen.) E. Meyer.
170 Case of Addison's Disease in Connection with Urogenital Tuberculosis. A. Werner.

168. **Atony of the Bladder Without Obstruction or Organic Nervous Disease.**—Walker reports nine cases in which nothing could be found to explain the insufficient expulsive power of the bladder. The age of the patients ranged from 22 to 59; two had had syphilis, four gonorrhea. The disturbance had come on slowly and gradually in all the cases, and in only one had there been acute retention at any time. The bladder was chronically dilated in four cases, but evacuation was finally complete, while in the others there was from 100 to 300 gm. of residual urine. In every case the bladder showed pronounced trabeculæ, but they were distributed differently from those observed in cases of obstruction, the side walls and apex being mostly involved. He regards the trabeculæ as secondary to the atrophy, and cites two additional cases in which the atony had progressed until the catheter had to be used constantly. He has been able to find only a few similar cases on record; he cites the details of Albarran and Nogues' cases in men of 27 and 28.

Zentralblatt für Chirurgie, Leipsic

February 11, XXXVIII, No. 6, pp. 185-224

171 *Modified Vein Anesthesia. A. Brüning.
172 *Plastic Closure of Fistulas Opening Out of Internal Organs. Abrashanoff.
173 *Chronic Catarrh of Breast. (Chronischer Katarrh der weiblichen Brustdrüse.) W. Mintz.

171. **Modified Technic for Vein Anesthesia.**—Brüning avoids the drawbacks of expulsion of blood from the entire limb—bloodlessness is an imperative condition for the success of vein anesthesia—by restricting the induced anemia to a comparatively narrow segment of the limb. This is accomplished by raising the limb for a time to expel the blood by force of gravity; then a constricting band is applied between the lesion and the trunk. Commencing at this band, the blood is expelled toward the trunk as by the ordinary technic, and then a second constricting band is applied above. By this means it is possible to obtain a bloodless zone of from 10 to 15 cm. wide between the lesion and the trunk, and here the anesthetic is injected to deaden the nerve trunks innervating the field of operation below. By the modification described, both constricting bands are applied above the field of operation leaving the lesion undisturbed until ready to operate. [The technic for vein anesthesia was described in THE JOURNAL, May 1, 1909, page 1466.]

172. **Fascia Plug for Fistulas.**—Abrashanoff cuts a strip of fascia, twists it around and pushes it down to the bottom of the fistula, holding it in place with a few sutures. It speedily grows to the freshened walls of the fistula and the spaces left are soon filled with regenerating tissues. He has applied the method in three cases with ideal results to date, over nine months in one case. The theoretical objections that might be made to the procedure do not seem to materialize in practice.

173. **Chronic Catarrh of Mammary Gland.**—Mintz applies this term for want of a better to a chronic secretion of yellow serum from one breast, persisting for from months up to several years, in the eight cases of the kind which he has encountered in the last six years at Moscow in women 30 years old and upward. The interval since the last pregnancy was nine or more years. Some had nursed and others had not nursed their last child. No subjective symptoms or appreciable changes in the breast could be discovered in six cases. In the seventh a carcinoma developed finally in the breast affected. In the eighth case an adenoma developed as the abnormal secretion became apparent, but the secretion persisted after removal of the tumor, and a superficial mastitis developed the sixth year. In the fifth year another adenoma developed in the other breast. He declares that the anomaly has nothing to do with Paget's disease of the nipple. In one case the secretion had persisted for two years, when it ceased after a course of potassium iodid, and there has been no recurrence during the three years to date. The secretion did not seem to have any connection with menstruation or the menopause. In the woman with carcinoma the secretion became hemorrhagic after three years as the tumor developed. He is inclined to explain the trouble as transudation from connective tissue accompanying a desquamating process in the acini, but he has not been able to examine a specimen anatomically. The affection has certain points in common with chronic cystic mastitis, of which he has encountered a special form, the mammary gland being studded with cysts with connective tissue walls, as he found in an operative case. He described this type in 1899, the subepithelial proliferation of connective tissue causing the casting off of the acinus epithelium, the latter forming, with the secretion from the granulations, the contents of the cysts.

Zentralblatt für Gynäkologie, Leipsic

February 11, XXXV, No. 6, pp. 225-256

174 *Allowing Patients to Get Up Early After Operations and Delivery. (Das Frühaufstehen der Wöchnerinnen und Operierten und die hierbei beobachteten Todesfälle.) O. Aichel.
175 Technic of Suprasymphyseal Cesarean Section. E. Frank.
176 Rubber Cap to Draw Over Cancerous Uterus During Hysterectomy. (Vorschlag zur Verhütung von Impfmetastasen im Paravaginalschnitt.) K. Czerwenka.
177 Hypnosis. ("Suggestionsnarkose und Hypnose.") A. Rieck.

174. **Allowing Patients to Get Up Early After Laparotomies and Deliveries.**—Aichel reviews the cases on record in which thrombosis developed in patients allowed to get up on the second or third day and analyzes the circumstances to determine whether this was responsible for the fatal outcome which has been reported in six cases. His conclusions are that this is possible only for two of the cases, Fromme's and Scherer's, and closer analysis of these fails to demonstrate that thrombosis and embolism are more liable to occur when patients are allowed to leave the bed earlier. The method has the great advantage that when patients are allowed to get up earlier they are kept under closer supervision than formerly, and this goes a long way, he remarks, toward prevention of sudden fatalities in parturients and patients after operations. Scherer has stated in regard to his case that it was his impression that the outcome of the thrombosis might have been more favorable if the patient had stayed quietly in bed, but Aichel comments that although this may be true, it is impossible to prove it.

Gazzetta degli Ospedali e delle Cliniche, Milan

January 31, XXXII, No. 14, pp. 147-154

178 Operative Treatment of Relics of Inflammation in Peritoneal Cavity. (Laparotomia per placche adhesive infiammatorie nella cavita peritoneale.) N. Federici.

February 2, No. 15, pp. 155-162

179 Varices in Round Ligament During Pregnancy Simulating Inguinal Hernia. I. Bruchi.

February 5, No. 16, pp. 163-178

180 *Relations Between the Kidneys and Suprarenals in Chronic Nephritis. F. d'Alessandro.

180. **The Suprarenals in Chronic Nephritis.**—D'Alessandro analyzes the clinical syndrome in eleven cases with necropsy findings in five, in which chronic nephritis was accompanied by lesions in the suprarenals. The latter, however, proved to be only such as are found with ordinary infectious diseases or in the aged, there being nothing to sustain the assumption that chronic nephritis induces a compensating hyperfunctioning of the suprarenals.

Policlinico, Rome

January, XVIII, Surgical Section No. 1, pp. 1-48

181 Surgery of Blood-Vessels. (Suture, anastomosi artero-venose e trapianti vasali. Studio sperimentale.) A. Curcio.

182 Frambesia in Brazil. (Nota sopra alcune affezioni framboesiche osservate in Brasile.) A. Splendore.

Riforma Medica, Naples

January 30, XXVII, No. 5, pp. 113-140

183 *Wassermann Reaction in Malaria. (La prova della deviazione del complemento della malaria.) F. Valerio.

184 Diabetes Insipidus. T. Silvestri. Commenced in No. 4.

185 Blood Findings in Malta Fever. (Ricerche ematologiche nelle suppurazioni da micrococco di Bruce.) F. Addari.

February 6, No. 6, pp. 141-168

186 Insufficiency of Several Ductless Glands. (Caso di insufficienza pluriglandolare.) A. Murri. Commenced in No. 4.

187 *Simplified Technic for the Wassermann Reaction. (Una notevole semplificazione di tecnica per la prova della fissazione del complemento.) L. Ferrannini.

188 Study of Coagulation of Blood. (Il tempo di coagulazione del sangue. Sostanze coagulanti e decoagulanti.) C. Mantelli.

183. **Wassermann Reaction in Malaria.**—Valerio found a positive reaction in 40 per cent. of a number of cases of recent malaria, free from syphilis. In advanced malaria and in old cases in which no parasites could be found in the blood the reaction was negative.

187. **Improved Technic for the Wassermann Reaction.**—Ferrannini writes from the medical clinic of the university of Naples, in charge of Professor Rummo, to state that it is possible to use in fixation of complement the blood of eels. Eel serum has long been known to have remarkable hemolytic powers. It was with the serum of eels that the well-known work on hemolysins and antihemolysins was done by Camus, Gley and Kossel in 1898 and Tchistowitch in 1899. The eel serum thus provides the hemolytic amboceptor for the fixation of complement test. From an eel weighing 200 gm., by cutting off its tail, enough blood can be obtained to yield 2 or 3 c.c. of serum after centrifugation or spontaneous clotting. This serum is especially hemolytic for rabbit red corpuscles. He has been making extensive comparative tests with the original Wassermann technic and with the eel serum used in place of the prepared hemolytic serum from rabbits—which it takes three or four weeks to obtain by repeated treatment of the rabbit. The findings were parallel in the long series of parallel tests and he thinks that as eels are readily procured and the serum does not lose its hemolytic property for some time after death, this modification of the technic will prove a welcome simplification.

Hygiea, Stockholm

January, LXXIII, No. 1, pp. 1-128

189 *Spondylarthritis. (Studier öfver reumatiska och reumatoida sjukdomar. I.) I. Hedenius.

190 Elimination of Mercury Through the Kidneys. (Om kvicksilfvereliminationen genom njurarna vid intramuskulära injektioner af merkuriololja.) M. Möller and A. Blomquist.

189. **Spondylarthritis.**—Hedenius gives the details of seventeen cases of spondylarthritis, his analysis convincing him that there are two well-defined forms of arthritis of the spine which have frequently been confused in the past. The first is of an infectious-toxic nature generally but it can be likewise induced by trauma, severe or slight but often repeated. This form, which he calls ankylopoetic or adhesive spondylarthritis, usually attacks individuals in early middle age. The primary lesion is the ankylosis of the vertebræ as described by Bechterew, Strümpell, Marie and others. The other form, deforming spondylarthritis, has been described for centuries. It is not of infectious origin, so far as known to date is not accompanied by fever, and in most cases is localized in the lower segments of the spine. The trouble is generally stationary and displays little tendency to spread upward. Ankylosis of the spinal articulations is not the primary but a secondary phenomenon in this type; the pathologic process is often symptomless. Of course transitional forms may be frequently observed.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

CESAREAN SECTION IN GREAT BRITAIN AND IRELAND. With Tables of 1,282 Cases of Cesarean Section by over 100 Living Obstetricians and Gynecologists in Great Britain and Ireland. By Amand Routh, M.D. (Lond.), F.R.C.P. (Lond), Obstetric Physician to Charing Cross Hospital, London. Being a Report on the Subject read at the V-me Congrès International d'Obstétrique et de Gynécologie at St. Petersburg in September, 1910. Cloth. Price, 5 shillings net. Pp. 233. London: Sherratt & Hughes, 34 Cross Street, Manchester, 1911.

CROWN-GALL OF PLANTS: ITS CAUSE AND REMEDY. By Erwin F. Smith, Pathologist in Charge of Laboratory of Plant Pathology, Nellie A. Brown, Scientific Assistant, and C. O. Townsend, Formerly Pathologist in Charge of Sugar-Beet Investigations. Bull. 213, Bureau of Plant Industry. U. S. Dept. Agric. Issued Feb. 28, 1911. Paper. Pp. 215, with illustrations. Washington: Government Printing Office, 1911.

MANUAL OF CYSTOSCOPY. By J. Bentley Squier, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Morocco. Price, $3 net. Pp. 117, with illustrations. New York: Paul B. Hoeber, 1911.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Volume XXVIII. Edited by Archibald Maclaren, M.D., Recorder of the Association. Printed for the Association. Robert G. LeConte, M.D., Secretary, 1530 Locust St., Philadelphia. Paper. Pp. 664, with illustrations. For sale by William J. Dornan, Philadelphia, 1910.

A MANUAL OF GYNECOLOGY. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital. Cloth. Price, $5 net. Pp. 632, with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

BIENNIAL REPORT OF THE NEBRASKA ORTHOPEDIC HOSPITAL, LINCOLN, NEB. For Period Ending Nov. 30, 1910. To Hon Ashton C. Shallenberger, Governor, and Honorable Board of Public Lands and Buildings. Paper. Pp. 40, with illustrations. J. P. Lord, Superintendent.

DIE ERWEITERTE ABDOMINALE OPERATION BEI CARCINOMA COLLI UTERI. (Auf Grund von 500 Fällen.) Von Dr. E. Wertheim in Vienna. Paper. Price, $3.65. Pp. 203, with illustrations. Vienna: Urban & Schwarzenberg, 1911.

TEXT-BOOK OF MASSAGE. By L. L. Despard. Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.